Veterans Affairs Medical Center
Upgrade Force Protection Front Entrance
Project Number 636-13-126

4101 Woolworth Avenue
Omaha, Nebraska 68105

GENERAL ARCHITECTURAL NOTES:

1. THE CONTRACTOR SHALL INSPECT THE SITE, STUDY EXISTING CONDITIONS, REVIEW DRAWINGS AND SPECIFICATIONS.
2. CONTRACTOR SHALL ADJUST FOR ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. CONTRACTOR SHALL TAKE ALL MEASUREMENTS FOR THE WORK AND BE RESPONSIBLE FOR SAME. COORDINATE THE WORK AND SHOP DRAWINGS.
4. ALL UTILITIES AND SERVICES SHALL BE KEPT IN CONTINUOUS OPERATION UNLESS WRITTEN PERMISSION IS OTHERWISE GRANTED BY THE OWNER. TEMPORARY ALTERATIONS AND CONNECTIONS REQUIRED BY THIS CONTRACT SHALL BE MADE SO THAT ALL BUILDING SERVICES ARE MAINTAINED WITH MINIMUM INTERRUPTION. SCHEDULE ALL ELECTRICAL/MECHANICAL OUTAGES 7 DAYS IN ADVANCE WITH THE OWNER.
5. PROTECT ALL WORK, MATERIALS AND EQUIPMENT. CAP OR PLUG TEMPORARY OPENINGS.
6. ALL OCCUPIED WORK AREAS, BUILDING CORRIDORS AND EXTERIOR AREAS SHALL BE KEPT CLEAR OF DEBRIS. CUTTING AND PATCHING OF EXISTING WALLS, FLOORS OR CEILINGS REQUIRED BY NEW WORK SHALL INCLUDED AS WORK PROVIDED UNDER THIS CONTRACT.
7. CUTTING SHALL BE DONE WITH CARE SO AS NOT TO DAMAGE EXISTING EQUIPMENT, CONNECTIONS, CONTROLS, ETC. DAMAGE CAUSED BY SUCH CUTTING SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION BY CONTRACTOR AT NO COST TO THE OWNER.
8. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, OF THE BEST QUALITY AND FREE FROM DEFECTS.
9. ALL WORK SHALL COMPLY WITH APPLICABLE REGULATIONS, CODES AND ORDINANCES.
10. THE CONTRACTOR SHALL PERFORM ALL TESTS AS SPECIFIED OR AS NECESSARY TO DEMONSTRATE A COMPLETE AND SATISFACTORY INSTALLATION.
11. ALL EXPOSED PENETRATIONS MADE THROUGH EXISTING ROOFS, FLOORS, AND WALLS SHALL BE PATCHED WITH LIKE MATERIALS TO MATCH THE SURROUNDING SURFACES.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING MATERIALS RESULTING FROM WORK UNDER THIS CONTRACT AND SHALL RESTORE SUCH TO ITS ORIGINAL CONDITION.
13. THE CONTRACTOR SHALL WORK WITH THE CONDITIONS AS THEY EXIST AT THE SITE.

HAZARDOUS MATERIAL:

A. SEE OWNER FOR HAZARDOUS MATERIAL REPORT.

B. IF THE CONTRACTOR ENCOUNTERS MATERIAL THAT COULD BE HAZARDOUS, THE CONTRACTOR SHALL STOP WORK AND NOTIFY THE OWNER IMMEDIATELY FOR DIRECTION.

DESIGN STANDARDS:

VA DESIGN DIRECTIVES AND GUIDELEINES

INTERNATIONAL BUILDING CODE, 2012

NFPA 101, LIFE SAFETY CODE, 2012

NFPA NATIONAL FIRE CODES

NATIONAL ELECTRICAL CODE

NATIONAL STANDARD PLUMBING CODE

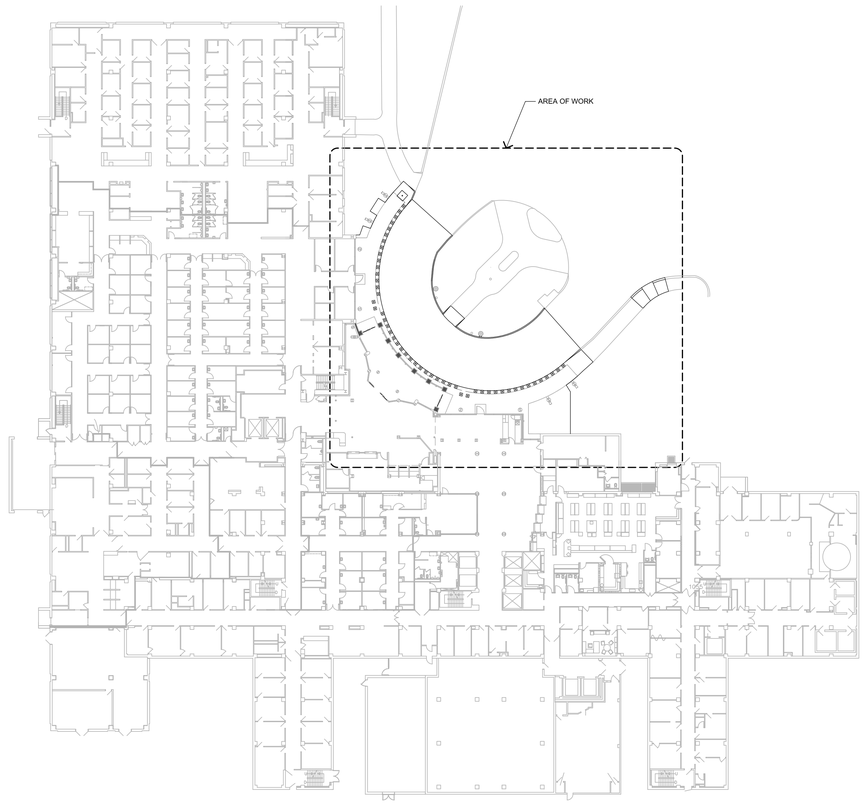
ARCHITECTURAL BARRIERS ACT ACCESSIBILITY STANDARDS (ABAAS) AND VA SUPPLEMENT BARRIER FREE DESIGN GUIDE

ALTERNATES:

CONTRACTOR TO PROVIDE THE FOLLOWING BID ADD ALTERNATES:

ALTERNATE NO.1: SNOW MELT SYSTEM

Index of Drawings:



BUILDING #1, 1st FLOOR KEY PLAN

PLAN NORTH

Revisions:	Date

ARCHITECT/ENGINEERS:

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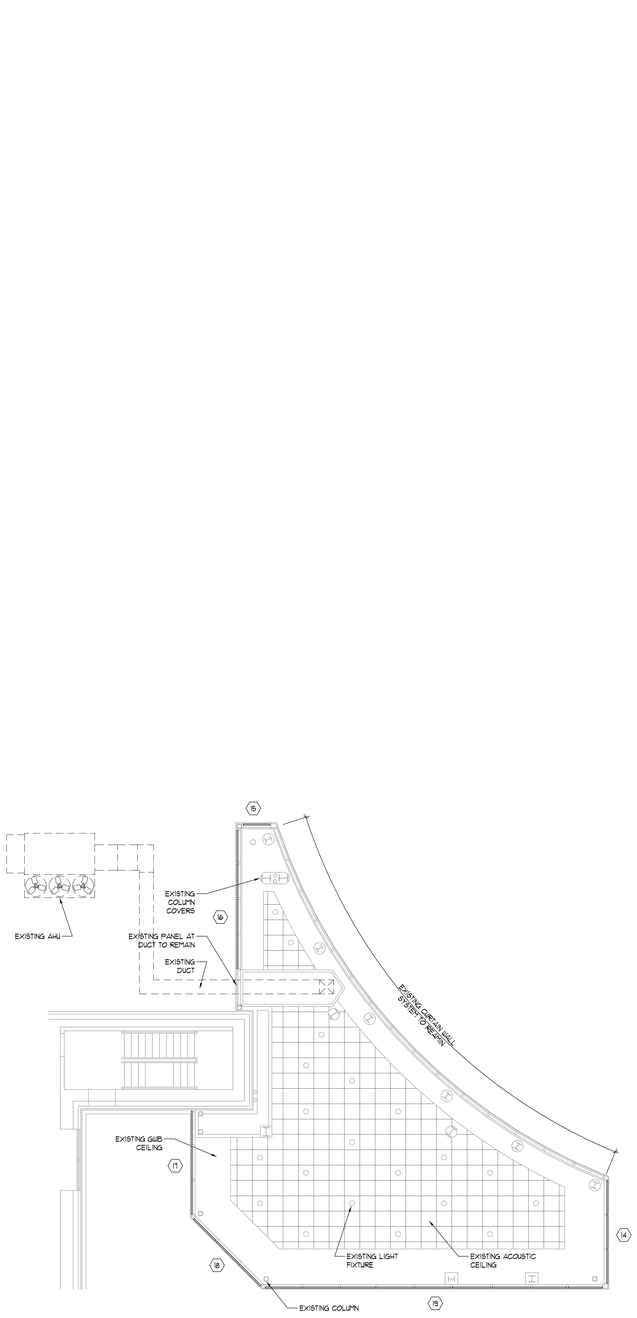
Drawing Title	COVER SHEET
	CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)
Project Title	UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location	VAMC Omaha Nebraska
Date	MAY 10, 2013
Checked	CLH
Drawn	
Project Number	636-13-126
Building Number	ONE
Drawing Number	A0.1
Dwg.	1 of 17

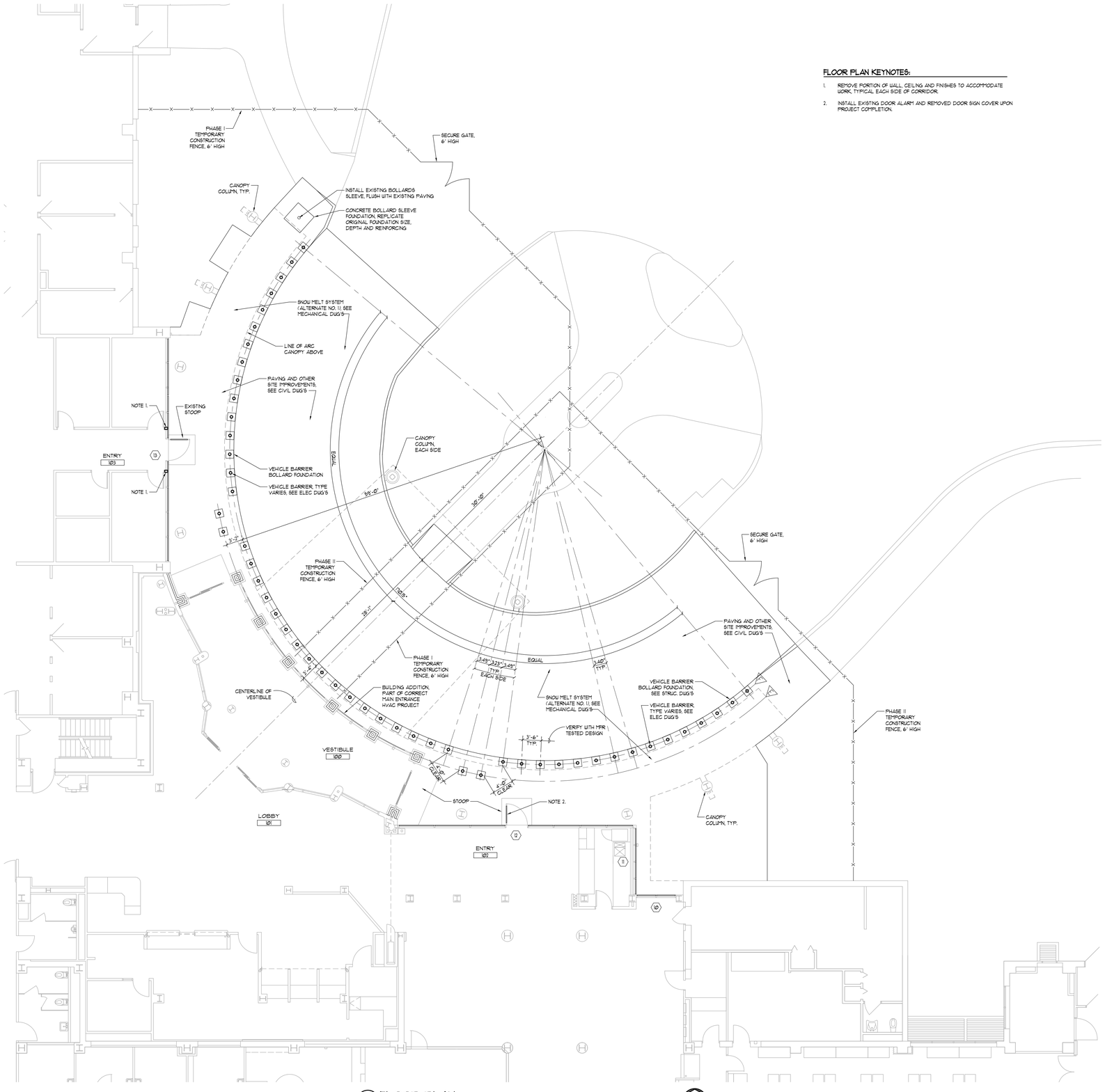
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



2 A2.1 CLERESTORY PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH



1 A2.1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

FLOOR PLAN KEYNOTES:

1. REMOVE PORTION OF WALL, CEILING AND FINISHES TO ACCOMMODATE WORK, TYPICAL EACH SIDE OF CORRIDOR.
2. INSTALL EXISTING DOOR ALARM AND REMOVED DOOR SIGN COVER UPON PROJECT COMPLETION.

Revisions:	Date

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Drawing Title: FLOOR AND CLERESTORY PLANS

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Date: MAY 10, 2013 | Checked: CLH | Drawn:

Project Number: 636-13-126

Building Number: ONE

Drawing Number: A2.1

Dwg. - of -

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Department of Veterans Affairs

three quarters inch = one foot 6" 0 2

one inch = one foot 6" 0 2

one and one half inches = one foot 6" 0 1

three inches = one foot 6"

one half inch = one foot 0 4

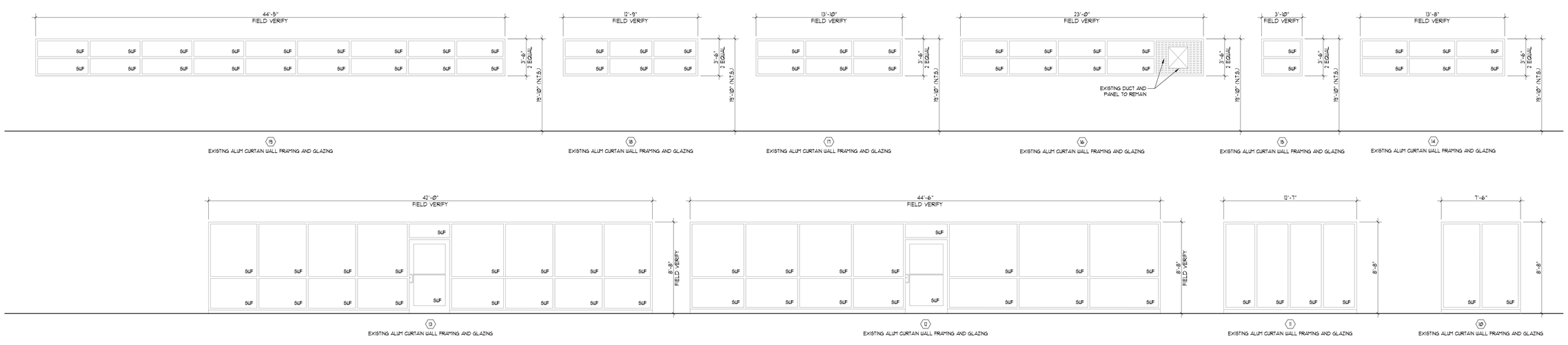
three eighths inch = one foot 0 4

one quarter inch = one foot 0 4 8

one eighth inch = one foot 0 4 8 16

P:\Projects - Active\2011-33 VA Omaha Entry-Correct Main Entrance HVAC\03\11-33 A7.1 Force.dwg 5-10-13 07:16:30 AM mkearney

5UF = SECURITY WINDOW FILM SHALL BE 3M SAFETY + SECURITY FILM ULTRA 9480I WITH 3M IMAPCT PROTECTION PROFILE (IPP) ATTACHMENT SYSTEM. PROVIDE PROFILE FOR DOORS AS REQUIRED. SYSTEM SHALL MEET OR EXCEED ANSI Z97.1



WINDOW TYPES

SCALE: 1/4" = 1'-0"

Revisions:	Date

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Drawing Title: WINDOW TYPES

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Date: MAY 10, 2013 | Checked: CLH | Drawn:

Project Number: 636-13-126

Building Number: ONE

Drawing Number: A7.1

Dwg. - of -

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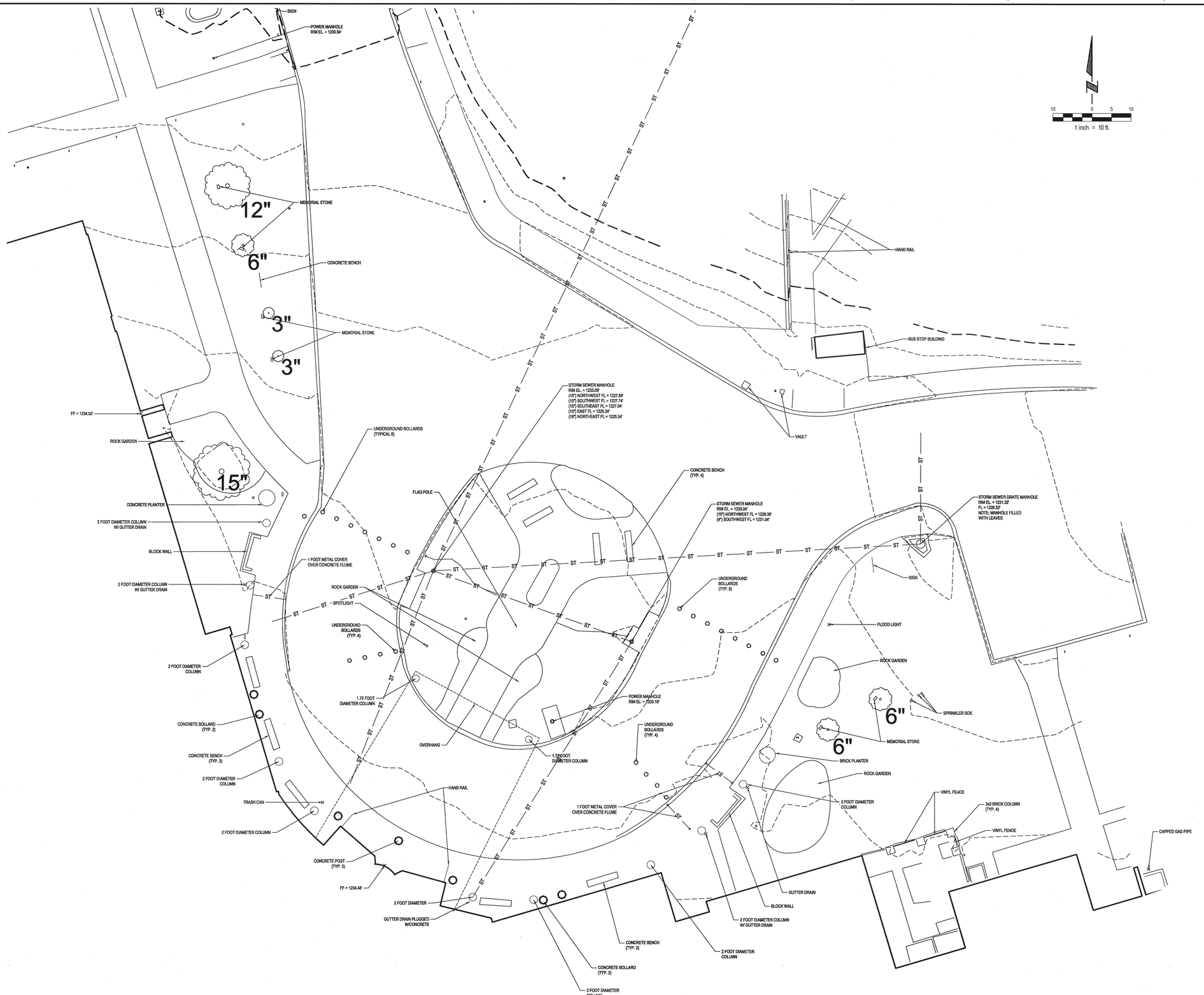

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P2012.335.001

Revisions:	Date

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Drawing Title: TOPOGRAPHIC SURVEY

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Project Number: 636-13-126

Building Number: ONE

Drawing Number: Dwg. 2 of 17

Date: MAY 10, 2013 | Checked: CLH | Drawn:

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REMOVAL LEGEND:

- REMOVE EXISTING PCC SIDEWALK
- REMOVE EXISTING PCC CONCRETE PAVEMENT
- REMOVE STORM SEWER PIPE

REMOVAL KEYED NOTES:

1. SAWCUT AND REMOVE EXISTING PAVEMENT.
2. SAWCUT AND REMOVE EXISTING PCC SIDEWALK.
3. EXISTING PAVEMENT TO REMAIN.
4. EXISTING BOLLARD RECEPTACLE TO REMAIN. DO NOT DISTURB BOLLARDS OR RECEPTACLE DURING ANY CONSTRUCTION ACTIVITIES.
5. EXISTING SIDEWALK TO REMAIN.
6. EXISTING FLAGPOLE TO REMAIN.
7. SEE ARCHITECTURAL PLAN FOR BENCH AND WALL REMOVAL.
8. SEE ARCHITECTURAL PLAN FOR REMOVAL.
9. EXISTING LIGHT TO REMAIN.
10. EXISTING LANDSCAPING TO REMAIN.
11. REMOVE AND SALVAGE BOLLARD RECEPTACLE, SEE ARCHITECTURAL PLAN.
12. REMOVE CURB INLET. REMOVE CONCRETE CHANNEL CONNECTION TO MANHOLE AND PLUG OPENING IN MANHOLE AS PART OF INLET REMOVAL.
13. REMOVE METAL COVER AND CONCRETE FLUME AS PART OF SIDEWALK REMOVAL.
14. REMOVE 4" STORM SEWER PIPE.

GENERAL REMOVAL NOTES

1. ALL ITEMS DAMAGED BY CONTRACTOR DURING REMOVAL CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
2. ALL CONCRETE, ASPHALT AND OTHER DEMOLITION RUBBLE AND DEBRIS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS. ALL REMOVED ITEMS SHALL BE DISPOSED OF OFF SITE AND SHALL NOT BE INCORPORATED INTO THE WORK.
3. PAVEMENT AND SIDEWALK REMOVAL LIMITS SHALL BE ADJUSTED IN THE FIELD TO MATCH EXISTING JOINTS.
4. THE CONTRACTOR SHALL PROTECT EXISTING LANDSCAPING.
5. THE CONTRACTOR SHALL PROTECT EXISTING LANDSCAPE. SPRINKLER SYSTEM AND ADJUST SPRINKLER HEADS TO ACCOMMODATE NEW PAVEMENT AND SIDEWALK.

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P2012.335.001

Revisions:	Date

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5/10/13

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Drawing Title: SITE REMOVAL PLAN

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Date: MAY 10, 2013 | Checked: CLH | Drawn:

Project Number: 636-13-126

Building Number: ONE

Drawing Number: Dwg. 3 of 17

Office of Construction and Facilities Management
Department of Veterans Affairs

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PAVEMENT LEGEND:

- 7" PCC PAVEMENT WITH INTEGRAL CURB
- 4" PCC SIDEWALK
- 2' COMBINATION CURB AND GUTTER

PAVING AND LAYOUT PLAN KEYED NOTES:

1. CONSTRUCT 7" PCC PAVEMENT WITH TYPE "A" INTEGRAL CURB. SEE DETAIL ON SHEET 7.
2. CONSTRUCT 4" PCC SIDEWALK.
3. BOLLARD. SEE ARCHITECTURAL PLAN.
4. STRUCTURAL STOOP. SEE ARCHITECTURAL PLANS.
5. EXISTING PAVEMENT WITH POLLARD RECEPTACLE.
6. EXISTING PAVEMENT.
7. EXISTING SIDEWALK.
8. DEPRESS CURB OVER 6' TO BE FLUSH WITH PAVEMENT.
9. CURB FLUSH WITH PAVEMENT.
10. DEPRESS CURB OVER 3' TO BE FLUSH WITH PAVEMENT.
11. CONSTRUCT 2' COMBINATION CURB AND GUTTER. SEE DETAIL ON SHEET 7.
12. DEPRESSED HANDICAP RAMP. SEE DETAIL ON SHEET 7.
13. TIE BAR PROPOSED PAVEMENT INTO EXISTING PAVEMENT. SEE DETAIL ON SHEET 7.
14. PLACE 4" PCC SIDEWALK BETWEEN COLUMN FACE AND PAVEMENT TO FACILITATE DRAINAGE FROM COLUMN DOWNSPOUT.
15. PAINT CURB RED WITH WHITE "NO PARKING" STENCILED ON FACE OF CURB.
16. FIELD ADJUST PAVEMENT WIDTH TO AVOID EXISTING COLUMN.

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P2012.335.001

Revisions:	Date

PROFESSIONAL CIVIL ENGINEER — REGISTERED — WALTER E-7921 — STATE OF NEBRASKA
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Drawing Title: SITE PAVING AND LAYOUT PLAN

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location: VAMC Omaha Nebraska
Date: MAY 10, 2013 | Checked: CLH | Drawn:

Project Number: 636-13-126
Building Number: ONE
Drawing Number: Dwg. 4 of 17

Office of Construction and Facilities Management
Department of Veterans Affairs

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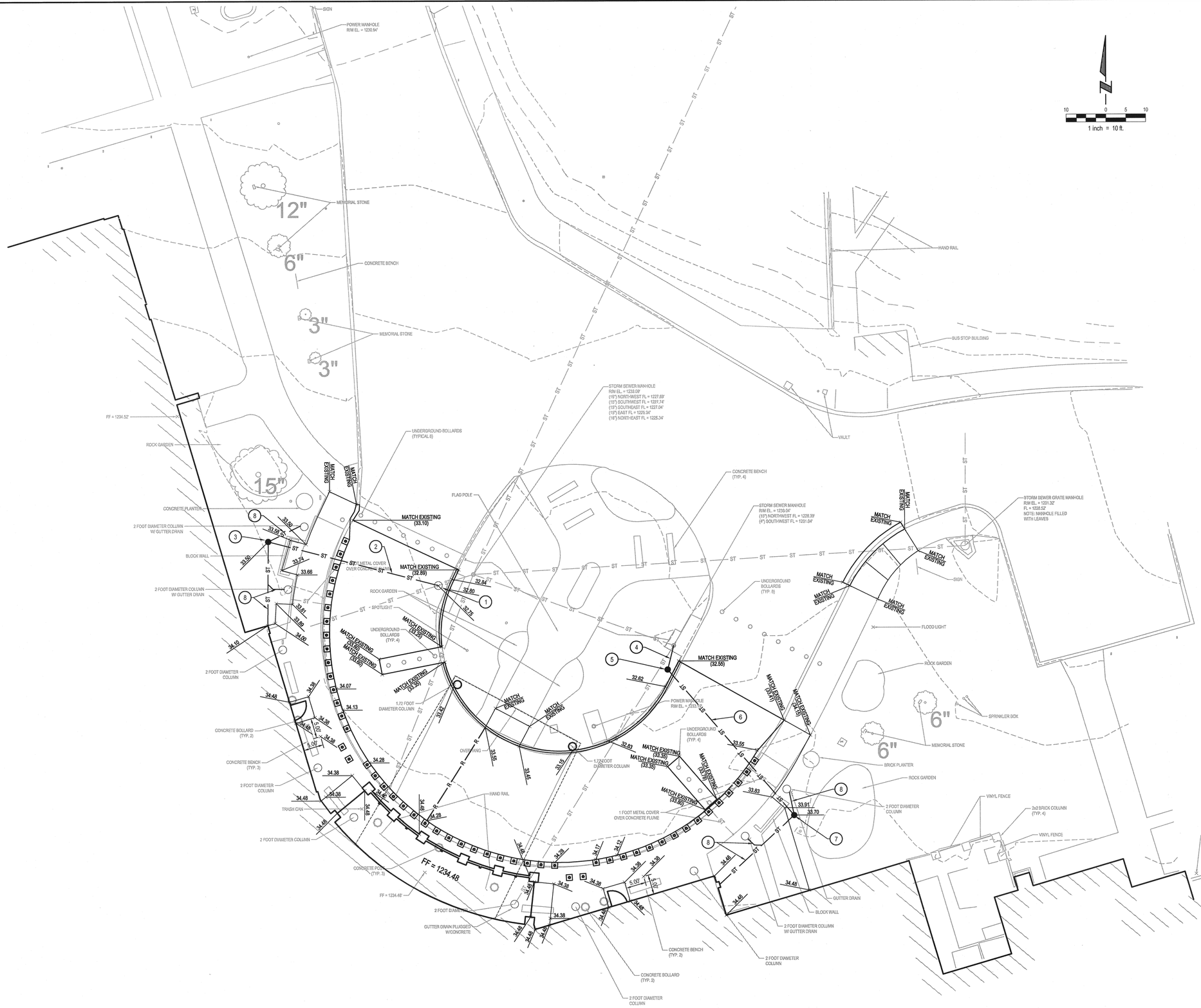

General Grading Notes

1. The Contractor Shall Have Complete Responsibility for Damage Caused by Blowing Dust from His Construction Activities.
2. Topsoil and Vegetation Shall be Stripped to a Depth of 4" to 6" in areas to be Graded.
3. All Fill and Backfill shall be Placed in Lifts of 8" or Less in Loose Thickness.
4. Areas to Receive Fill Shall be Scarified to a Minimum Depth of 12" and Proofrolled Prior to Receiving Fill. Slopes Steeper than 5H:1V Shall be Benched Before Placing Fill. The Standard Specifications Shall Govern the Grading and Site Preparation with the Exception that Structural Fill Shall be Compacted to a Minimum of 95% of the Maximimum Dry Density (ASTM D-698, Standard Proctor) at a Moisture Content Between -3% and +4% of Optimum.
5. For PCC Pavements, The Upper 12" of Subgrade Shall be Compacted to a Minimum of 90% of the Maximum Dry Density (ASTM D-1557, Modified Proctor) at a Moisture Content Between -3% and +4% of Optimum.
6. For Sidewalks, The Upper 6" of Subgrade Shall be Compacted to a Minimum of 95% of the Maximum Dry Density (ASTM D-698, Standard Proctor) at a Moisture Content Between -3% and +4% of Optimum. Sidewalk Subgrade Shall Extend at Least 6" Laterally Beyond the Edge of the New Sidewalk.
7. Imported Material, If Required, Shall be Free of Organic Matter and Debris, and Shall be a Clean, Inorganic Silt or Lean Clay with a Liquid Limit Less than 45 and a Plasticity Index Less Than 20. Borrow Material Shall Not Contain any Foreign Material with a Dimension Greater than 3".
8. Any Excess Material Shall be Disposed of Off-Site at a Location Determined by the Contractor.
9. Unless Noted, All Spot Elevations Shown are Top of Slab or Gutter. Add 0.5' to Determine Top of Curb Elevations.
10. A Grading Permit is Not Required for this Project Since it Disturbs Less Than One Acre.
11. All Disturbed Areas Beyond the Pavement and Sidewalk Shall be Sodded.

STORM SEWER BUILD NOTES:

1. Construct 54" Manhole with Slotted Cover over existing storm sewer pipe. Rim = 1232.75, FL (Exist. Pipe) = 1225.50, FL (10" In) = 1228.74 (field verify). Field verify location and flow line of existing storm sewer pipe.
2. 44 LF of 10" Storm Sewer Pipe @ 4.00% and connect to proposed Manhole.
3. Construct 18" Drain Basin with 18" Standard Round Grate. Grate Elevation = 1233.50, FL (10" Out) = 1230.50, FL (6" In) = 1230.83
4. 7 LF of 10" Storm Sewer Pipe @ 2.00% and connect to existing Curb Inlet. FL (10" In) = 1229.50, FL (Existing 15" Out) = 1228.39 (Field Verify)
5. Construct 18" Drain Basin with 18" Solid Round Grate. Grate Elevation = 1233.20, FL (10" In) = 1229.64, FL (10" Out) = 1229.64
6. 49 LF of 10" Storm Sewer Pipe @ 2.16%
7. Construct 18" Drain Basin with 18" Standard Round Grate. Grate Elevation = 1233.70, FL (10" Out) = 1230.70, FL (6" In) = 1231.03
8. 6" HDPE Piping for downspouts. Minimum Slope = 1.0%. Connect to gutter downspouts.

Legend

- 1170 — PROPOSED GRADING CONTOUR
- 1170 — EXISTING GRADING CONTOUR
- 34.38 — PROPOSED SPOT ELEVATION
- MATCH EXISTING — MATCH EXISTING ELEVATION (APPROXIMATE ELEVATION)
- R R R — RIDGE LINE

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Drawing Title	SITE GRADING AND STORM SEWER PLAN
	CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)
Project Title	UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location	VAMC Omaha Nebraska
Date	MAY 10, 2013
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Project Number	636-13-126
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Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

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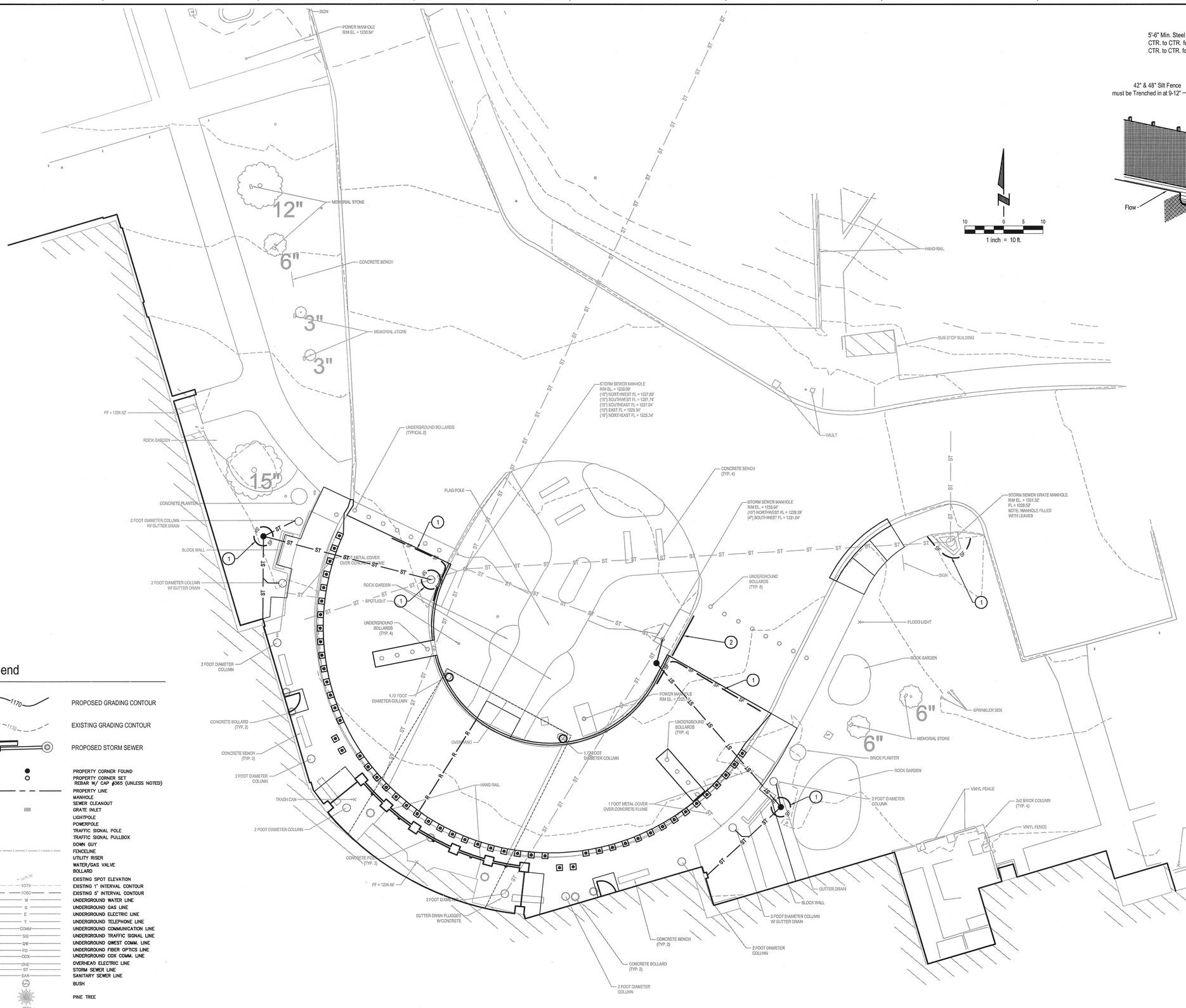

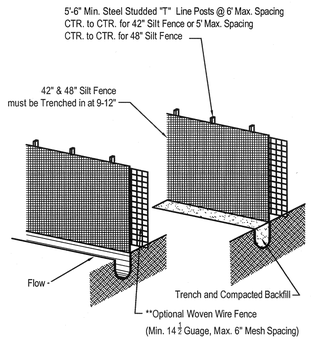

NOTES:

1. Acceptable silt fence specifications- AOS (#20 - 50 Sieve), Water Flow Rate (50 gpm/ sq. ft. - 125 gpm/ sq.ft), Tensile Strength (Grao) - (Min. 120 Warp or greater and Elongation (5-25%).
2. On each new run of silt fence spray paint the beginning of the run with 0+00 and spray paint the end with the date of installation and LF of the run.
3. Silt fence should be securely fastened to each steel support post or to woven wire which is in turn attached to the steel fence posts. A minimum of 3 ties are required for each post. To be located in the top 12"of the silt fence.
4. Steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. (Incline all posts 20° Max. from vertical, toward flow)
5. Silt fence shall be trenched in with a silt fence plow so that the downslope face of the trench is flat and perpendicular to the line of flow.
6. Silt fence shall be removed when it has served its usefulness so as not to block or impede storm flow or drainage.
7. Sediment trapped by this practice shall be uniformly distributed on the source area prior to topsoiling.

SILT FENCE
NOT TO SCALE

Legend

- PROPOSED GRADING CONTOUR (1170)
- EXISTING GRADING CONTOUR (1170)
- PROPOSED STORM SEWER
- PROPERTY CORNER FOUND
- PROPERTY CORNER SET REBAR W/ CAP #365 (UNLESS NOTED)
- PROPERTY LINE
- MANHOLE
- SEWER CLEANOUT
- GRATE INLET
- LIGHTPOLE
- POWERPOLE
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL PULLBOX
- DOWN GUY
- FENCELINE
- UTILITY RISER
- WATER/GAS VALVE
- BOLLARD
- EXISTING SPOT ELEVATION (1074.56)
- EXISTING 1' INTERVAL CONTOUR (1079)
- EXISTING 5' INTERVAL CONTOUR (1080)
- UNDERGROUND WATER LINE (W)
- UNDERGROUND GAS LINE (G)
- UNDERGROUND ELECTRIC LINE (E)
- UNDERGROUND TELEPHONE LINE (T)
- UNDERGROUND COMMUNICATION LINE (COMM)
- UNDERGROUND TRAFFIC SIGNAL LINE (SIG)
- UNDERGROUND QWEST COMM. LINE (QW)
- UNDERGROUND FIBER OPTICS LINE (FO)
- UNDERGROUND COX COMM. LINE (COX)
- OVERHEAD ELECTRIC LINE (OHE)
- STORM SEWER LINE (ST)
- SANITARY SEWER LINE (SAN)
- BUSH
- PINE TREE
- DECIDUOUS TREE

SEDIMENT AND EROSION CONTROL PLAN KEYED NOTES:

1. INSTALL SILT FENCE. SEE DETAIL ON THIS SHEET.
2. INSTALL 9" DIAMETER WATTLE TYPE FILTER IN THROAT OF INLET.

NOTE:
A GRADING PERMIT IS NOT REQUIRED FOR THIS PROJECT SINCE IT DISTURBS LESS THAN ONE ACRE.

STORM WATER POLLUTION PREVENTION PLAN GENERAL NOTES

1. OPERATORS/CONTRACTORS SHALL COMPLY WITH NOISE AND DUST CONTROL ORDINANCES.
2. OPERATORS/CONTRACTORS SHALL LOCATE EXISTING UTILITIES PRIOR TO THE START OF WORK.
3. OPERATORS/CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH OSHA REGULATIONS.
4. OPERATORS/CONTRACTORS SHALL CONFIRM WITH THE OWNER THAT GOVERNMENTAL APPROVALS HAVE BEEN RECEIVED PRIOR TO THE START OF WORK.
5. OPERATORS/CONTRACTORS SHALL PERFORM CONSTRUCTION ACTIVITIES AS DIRECTED BY THE OWNER, INSPECTOR, AND GOVERNMENT REGULATORS TO MINIMIZE THE POTENTIAL FOR EROSION AND POLLUTION.
6. EACH OPERATOR/CONTRACTOR SHALL MONITOR SILT FENCING AND OTHER BEST MANAGEMENT PRACTICES (BMPS). WITHIN THEIR AREAS OF RESPONSIBILITY, AND INSTALL ADDITIONAL BMPS AS NECESSARY AND AS DIRECTED BY THE INSPECTOR.
7. EACH OPERATOR/CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT FROM TEMPORARY SEDIMENT TRAPS, TEMPORARY SEDIMENT BASINS, BEHIND SILT FENCES, AND OTHER EROSION CONTROL MEASURES THAT STORE SEDIMENT, WITHIN THEIR AREAS OF RESPONSIBILITY, IF NECESSARY AND AS DIRECTED BY THE INSPECTOR.
8. EACH OPERATOR/CONTRACTOR SHALL MAINTAIN AND PERFORM PREVENTATIVE MAINTENANCE ON EACH BEST MANAGEMENT PRACTICE (BMP), WITHIN THEIR AREAS OF RESPONSIBILITY, TO ENSURE THEIR FUNCTION.
9. BMP'S SHALL BE KEPT IN WORKING ORDER. EACH OPERATOR/CONTRACTOR SHALL REPAIR ANY DEFECTS OR DAMAGES, WITHIN THEIR AREAS OF RESPONSIBILITY, AT OR BEFORE THE END OF EACH WORKING DAY OR AS DIRECTED BY THE INSPECTOR.
10. IN THE EVENT OF A RELEASE OF OIL OR HAZARDOUS SUBSTANCE, OPERATORS/CONTRACTORS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEBRASKA DEPARTMENT OF ENVIRONMENTAL QUALITY FOR NOTIFICATION, CONTAINMENT, INVESTIGATION, REMEDIAL ACTION AND DISPOSAL.

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P.2012.335.001

Revisions:	Date

ARCHITECT/ENGINEERS:

DOUGLAS C. WALTER E-7921 STATE OF NEBRASKA 5/10/13

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Drawing Title: SEDIMENT AND EROSION CONTROL PLAN

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Date: MAY 10, 2013 | Checked: CLH | Drawn:

Project Number: 636-13-126

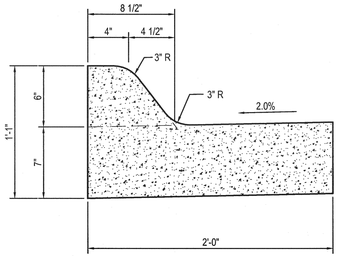
Building Number: ONE

Drawing Number: Dwg. 6 of 17

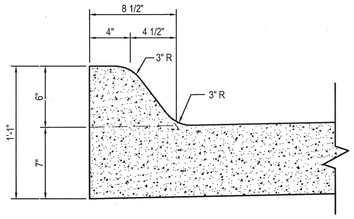
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

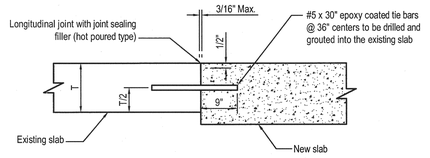
AREAS WITH SNOW MELT PAVEMENT
SCALE 1" = 10'



COMBINATION CURB AND GUTTER
NOT TO SCALE

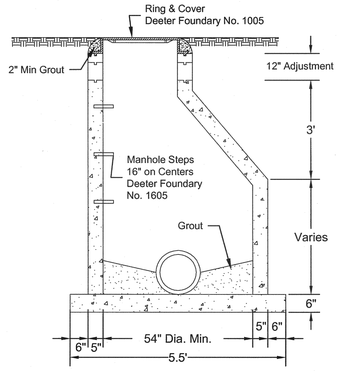


TYPE "A" INTEGRAL CURB
NOT TO SCALE

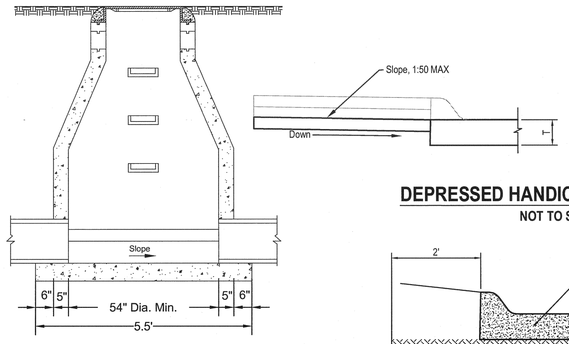


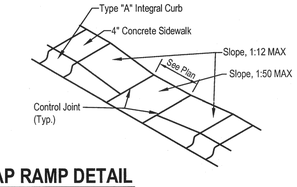
Tie bars are to be installed as called out in the plans.

TIE BAR DETAIL
NOT TO SCALE

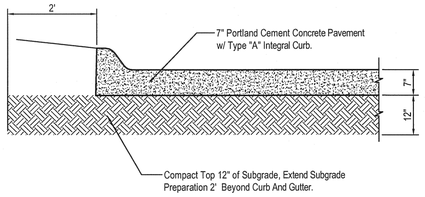


TYPICAL MANHOLE
NOT TO SCALE





DEPRESSED HANDICAP RAMP DETAIL
NOT TO SCALE

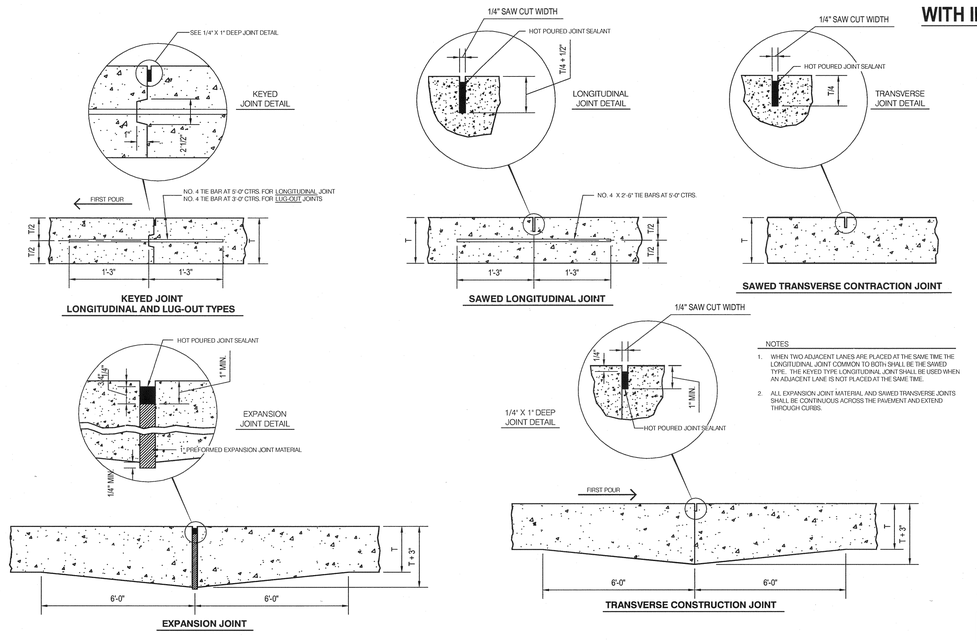


7" PORTLAND CEMENT PAVEMENT WITH INTEGRAL CURB SECTION
NOT TO SCALE

SIDEWALK SPOT ELEVATIONS @ BOLLARDS
SCALE 1" = 10'

GENERAL SITE CONSTRUCTION NOTES

1. Utilities are shown as a convenience for the Contractor. The locations of all aerial and underground utility facilities may not be indicated in these plans. Underground utilities, whether indicated or not, will be located and flagged by the utility companies at the Contractor's request. No excavation will be permitted in the area of the underground utilities until all facilities have been located and identified to the satisfaction of all parties and then only with extreme care to avoid any possibility of damages to the facilities.
2. Erosion control improvements shall be constructed on this site, including inlet protection, silt fencing, and a construction entrance. The Contractor shall be responsible for prompt reconstruction of any erosion control improvements disturbed by his operations. All disturbed erosion control improvements shall be fully reconstructed at the end of each working day prior to leaving the site. Separate payment will not be made for reconstruction of any erosion control improvements. Positive drainage in all work areas shall be maintained in the condition the construction site was in prior to Contractors arrival.
3. The Portland Cement Concrete for the pavement slab, combination curb & gutter, and sidewalk shall be Type B (Air Entrained), in accord with the Standard Specifications.
4. The Contractor shall submit a jointing plan to the Engineer for approval. The jointing plan shall conform to the following guidelines:
   A. Concrete Pavement shall be jointed in maximum 12' x 12' panels and shall be kept as square as possible. Joints shall be perpendicular to edges and radii, and shall not form angles less and 45 degrees or over 225 degrees.
   B. Sidewalk joints shall coincide with bollard spacing.
   C. 8' sidewalk shall be jointed in 4' x 4' panels. Other sidewalk shall be jointed in maximum 5' x 5' panels.
5. Contraction Joints shall be cut in to a minimum of 1/4 of slab thickness.
6. Isolation Joints (1/2" mastic) shall be provided around or adjacent to any structure or bollard.
7. All Pavement Joints shall be sealed with a hot applied sealant. The Contractor shall submit a joint sealant to the Engineer for approval.
8. Backfill soils in utility trenches, foundations, basement walls, and retaining walls shall be compacted to a minimum of 95% of the maximum dry density (ATSM D-698, Standard Proctor) at a moisture content between -3 and +4% of the optimum. Lift thickness shall be appropriately matched too the type of compaction equipment used.
9. Drain Basin shall be a Nyloplast Drain Basin with Grate as called out or approved.



PAVEMENT JOINT DETAILS
NOT TO SCALE

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Revisions:	Date

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5/10/13

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Drawing Title: NOTES AND DETAILS

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location: VAMC Omaha Nebraska
Date: MAY 10, 2013 | Checked: CLH | Drawn:

Project Number: 636-13-126
Building Number: ONE
Drawing Number: Dwg. 7 of 17

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

APPLICABLE CODES AND STANDARDS:
2012 INTERNATIONAL BUILDING CODE
ACI 318-05

DESIGN LIVE LOADS PSF
LATERAL IMPACT LOAD - 4000 LB VEHICLE TRAVELING @ 30 MPH

MAXIMUM ALLOWABLE SOIL BEARING CAPACITY 1500 PSF

MATERIAL DATA:

CONCRETE & REINFORCING
CONCRETE STRENGTH (f'c @ 28 DAYS)
GRADEBEAMS 3000 PSI

CEMENT TYPE	PORTLAND TYPE I
AGGREGATES	REGULAR WT. HARDROCK TYPE - ASTM C33
REINFORCING STEEL	ASTM A615, GRADE 60

STRUCTURAL NOTES:

GENERAL:

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE BUILDING CODE.

THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATION OF ANY LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE.

DETAILS ON THE DRAWINGS INDICATED AS "TYPICAL" APPLY IN ALL AREAS WHERE CONDITIONS SIMILAR TO THE DETAIL OCCUR.

THE STRUCTURAL DRAWINGS ARE NOT INTENDED FOR USE AS SHOP ERECTION DRAWINGS. REPRODUCTION OF THESE DRAWINGS IN LIEU OF PREPARATION OF SHOP ERECTION DRAWINGS SIGNIFIES THE USERS' ACCEPTANCE THAT ALL INFORMATION SHOWN IS CORRECT AND APPROPRIATE FOR SHOP DRAWINGS AND THAT THE USER WILL BE FULLY RESPONSIBLE FOR EXPENSES THAT MAY OCCUR FROM SAID ACCEPTANCE.

COORDINATION / VERIFICATION:

CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY PHASE OF THE WORK.

ANY PROPRIETARY STRUCTURAL SYSTEMS THAT ARE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH THE INSTRUCTIONS PREPARED BY THE SUPPLIER.

CROSS REFERENCE STRUCTURAL DRAWINGS WITH MECHANICAL AND ELECTRICAL DRAWINGS, AND WITH ACTUAL EQUIPMENT SUPPLIED TO THE PROJECT, FOR THE LOCATION AND SIZE OF ALL SLAB OPENINGS, SLEEVES, INSERTS, FLOOR DEPRESSIONS, BLOCK-OUTS, CURBS, ANCHORS, BOLTS, ETC. REQUIRED FOR INSTALLATION.

REFER TO ARCHITECTURAL DRAWINGS FOR ALL SURFACE FINISHES.

CONCRETE / REINFORCING:

CONCRETE BATCH DESIGN(S) SHALL BE PROPORTIONED AND PRODUCED IN ACCORDANCE WITH A.C.I. 318, IN PARTICULAR CHAPTER 5, AND A.C.I. 301. MIX AND DELIVER IN ACCORDANCE WITH ASTM C94.
SLUMP REQUIREMENTS:

FOUNDATIONS	MIN. 1 IN. / MAX. 4 IN.
AIR ENTRAINMENT	CONCRETE EXPOSED TO WEATHER _ 5% MIN.
ADMIXTURES	SUBMIT AS REQUIRED FOR APPROVAL
FLY ASH	NOT ALLOWED

CONCRETE TEST CYLINDERS:

SAMPLING IN FIELD	ASTM C172 & C31
CYLINDER STRENGTH TESTS	ASTM C39

FREQUENCY OF STRENGTH TESTS ONE PER 100 CU. YDS. OR
MIN. ONCE PER DAY FOR EACH TYPE OF MIX
ONE STRENGTH TEST = AVG. STRENGTHS OF TWO CYLINDERS @ 28 DAYS.
CYLINDERS TO BE TESTED: 2 @ 7 DAYS, 2 @ 28 DAYS.

CONSTRUCTION JOINTS MUST HAVE PRIOR REVIEW BY THE ENGINEER. ALL CONTINUOUS REINFORCING SHALL BE CARRIED THROUGH THE JOINT.
LOCATIONS:
FND WALLS AND FOOTINGS MIDWAY BETWEEN BOLLARDS

EXPOSED CORNERS: PROVIDE A 3/4" CHAMFER AT ALL EXPOSED CONCRETE CORNERS.

CURING: CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF SEVEN DAYS AFTER ITS PLACEMENT. IF FORMWORK IS REMOVED PRIOR TO SEVEN DAYS, APPLY MOIST CURING TO NEWLY EXPOSED SURFACES. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING.

REINFORCING BAR WELDING: ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

MINIMUM CONCRETE CLEAR COVER:
PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCING (FACE OF CONCRETE TO EDGE OF BAR) UNLESS DETAILED OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	
NO. 6 THROUGH NO. 18 BARS	2"
NO. 5 BAR, W31 OR D31 WIRE & SMALLER	1-1/2"

BAR SUPPORT ACCESSORIES SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES
BEAM REINFORCING ON BAR BOLSTERS @ 4 FT. O.C. MAX.

NO ROCKS, CLAY TILE, OR CLAY BRICK SHALL BE USED TO SUPPORT REINFORCING.

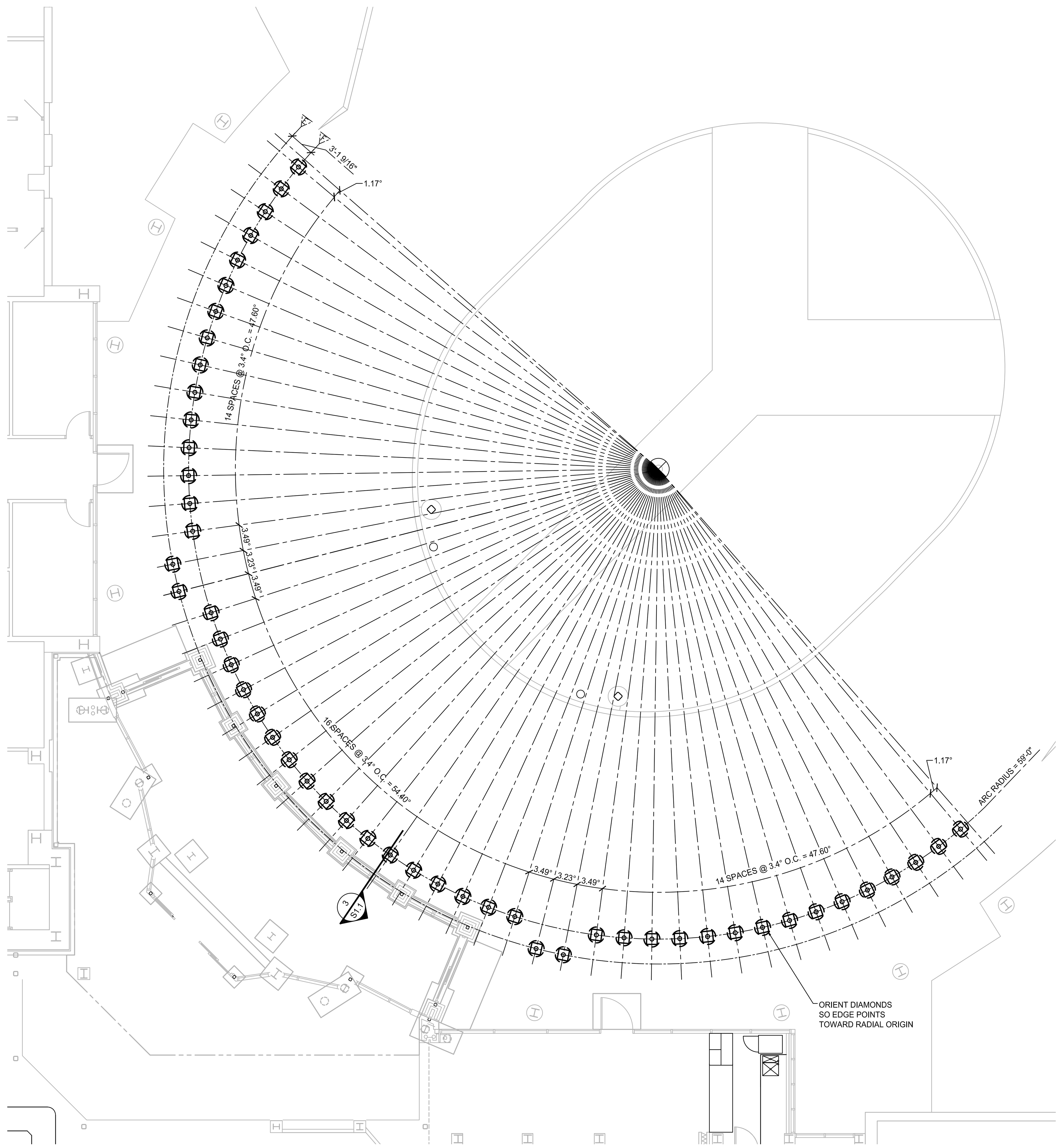
REINFORCING SHOP DRAWINGS: REINFORCING SUPPLIER SHALL PROVIDE COMPLETE PLACEMENT AND FABRICATION DRAWINGS FOR ALL REINFORCING INCLUDING THE LOCATION AND SIZE OF ALL ACCESSORIES AND SUPPORTS.

FOUNDATIONS:

SPREAD FOOTINGS SHALL BE PLACED ON NEAT, CLEAN AND DRY EXCAVATIONS. EXTREME CARE SHALL BE TAKEN WHEN EXCAVATING NEAR THE BEARING SURFACE. FOOT TRAFFIC SHALL BE KEPT TO A MINIMUM NECESSARY TO PLACE THE FOOTING REINFORCEMENT AND CONCRETE.

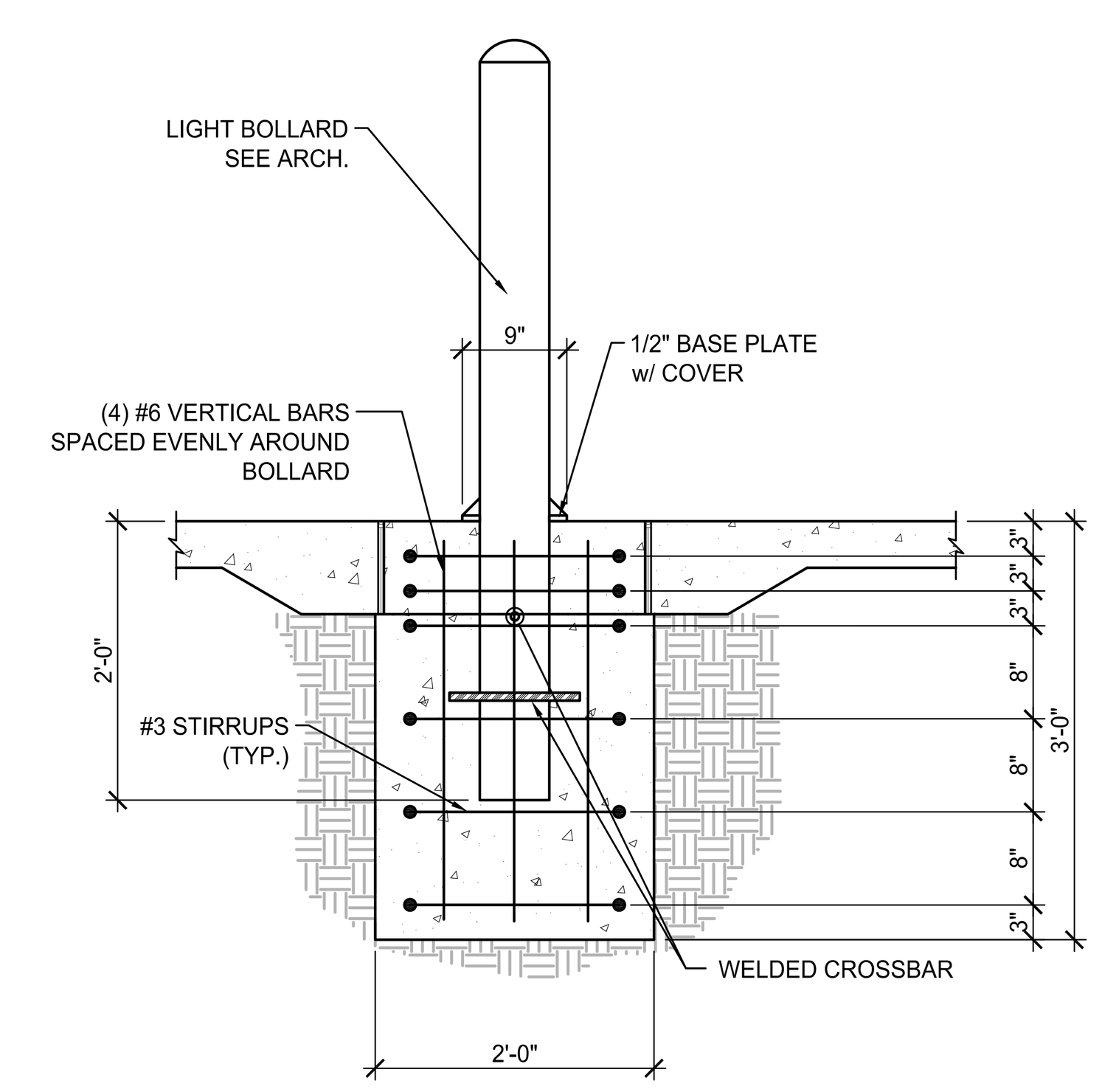
THE CONTRACTOR SHALL PROVIDE FOR ADEQUATE DRAINAGE OF SURFACE WATER AWAY FROM THE STRUCTURE AND EXCAVATED AREAS DURING CONSTRUCTION. THIS INCLUDES NECESSARY PUMPING, TRENCHING, BACKFILL AND/OR DIKE CONSTRUCTION.

1 GENERAL NOTES
SCALE: NO SCALE

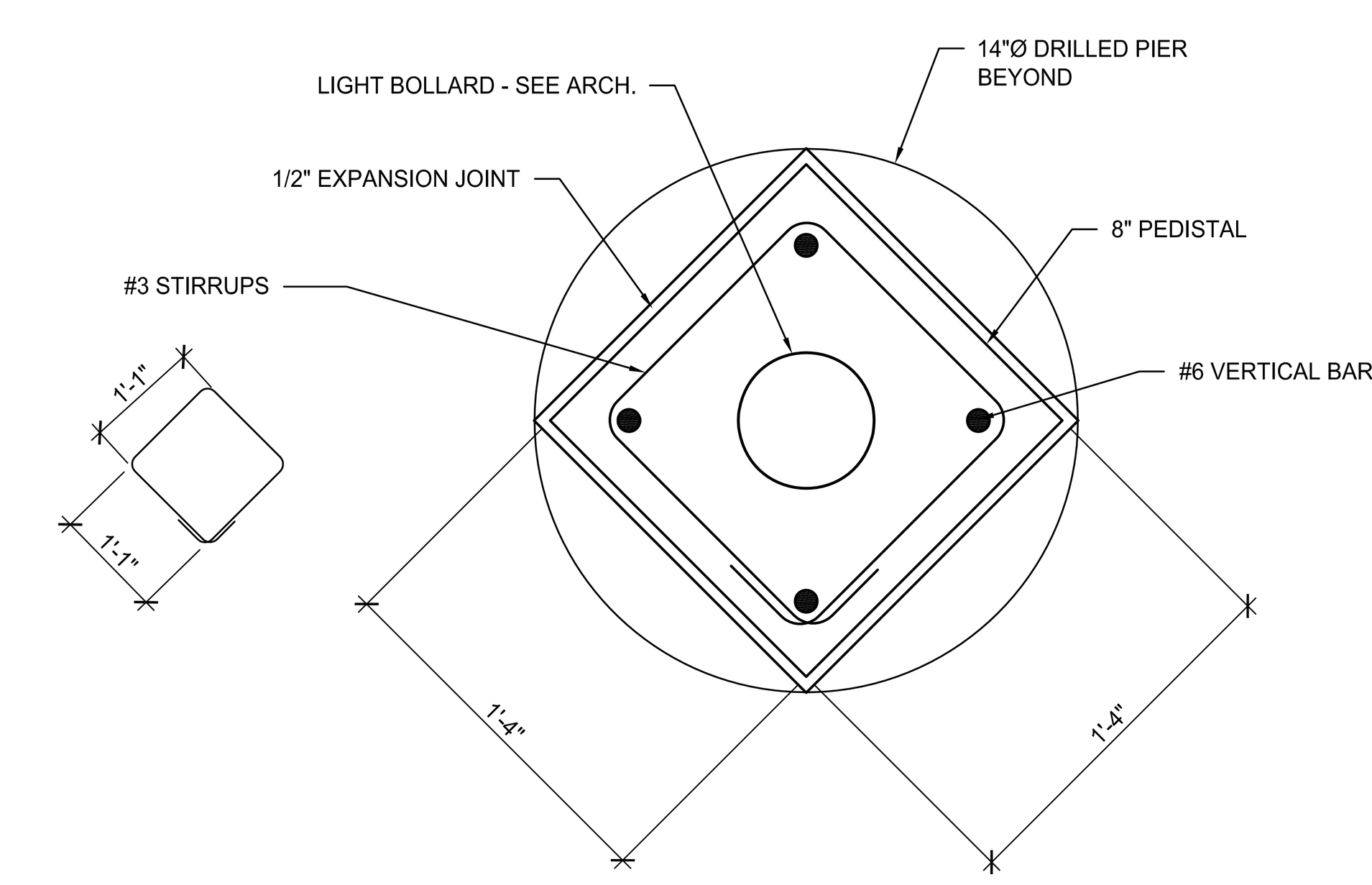


2 FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

NORTH



3 TYPICAL FOUNDATION SECTION
SCALE: 3/4" = 1'-0"



4 TYPICAL FOUNDATION PLAN
SCALE: 1 1/2"" = 1'-0"

Revisions: | Date

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InfraStructure, LLC
ENGINEERING CONSULTING GROUP

Drawing Title
FORCE PROTECTION LAYOUT & DETAILS

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE			Project Number: 636-13-126
			Building Number: ONE
Location: VAMC Omaha Nebraska			Drawing Number: S1.1
Date: MAY 10, 2013	Checked: CLH	Drawn:	Dwg. 10 of 17

Office of Construction and Facilities Management
Department of Veterans Affairs

MECHANICAL SYMBOLS LEGEND
(AS APPLICABLE)

PIPING AND SPECIALTIES

SYMBOL	DESCRIPTION
RD	REFRIGERANT DISCHARGE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
CD	COIL CONDENSATE DRAIN
LPS (XX)	LOW PRESSURE STEAM (PRESSURE)
MPS (XX)	MEDIUM PRESSURE STEAM (PRESSURE)
HPS (XX)	HIGH PRESSURE STEAM (PRESSURE)
LPC	LOW PRESSURE CONDENSATE
MPC	MEDIUM PRESSURE CONDENSATE
HPC	HIGH PRESSURE CONDENSATE
PC	PUMPED CONDENSATE
MU	MAKE-UP WATER
HCR	HOT/CHILLED WATER RETURN
HCS	HOT/CHILLED WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
EGR	ETHYLENE GLYCOL RETURN
EGS	ETHYLENE GLYCOL SUPPLY

SYMBOL	DESCRIPTION
PGR	PROPYLENE GLYCOL RETURN
PGS	PROPYLENE GLYCOL SUPPLY
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
D / R	PITCH OF PIPE, RISE (R) OR DROP (D)
	PIPE ANCHOR - MAIN
	PIPE ANCHOR - INTERMEDIATE
H	HANGER - ROD
H	HANGER - SPRING
	ALIGNMENT GUIDE
	FLEX CONNECTOR
	EXPANSION - LOOP
	EXPANSION - JOINT

SYMBOL	DESCRIPTION
	INLINE PUMP
MV	AIR VENT - MANUAL
A	AIR VENT - AUTOMATIC
FS	FLOW SWITCH
PS	PRESSURE SWITCH
AS	AIR SEPARATOR
	THERMOMETER
TW	THERMOMETER WELL
	BALL JOINT
PSDU	PUMP SUCTION DIFFUSER
	FLOAT THERMOSTATIC TRAP
	FLOWMETER - ORIFICE
	FLOWMETER - VENTURI
	DUPLEX STRAINER

DUCTWORK

SUPPLY, OUTSIDE OR MIXED AIR DUCT (UP)	10/6	RECTANGLE DUCT (WIDTH/HEIGHT)
SUPPLY, OUTSIDE OR MIXED AIR DUCT (DOWN)	10Ø	ROUND DUCT (DIAMETER)
SUPPLY, OUTSIDE OR MIXED AIR DUCT (SECTION)	10/6Ø	FLAT OVAL DUCT (WIDTH/HEIGHT)
RETURN AIR DUCT (UP)		FLEXIBLE DUCTWORK TO EQUIPMENT
RETURN AIR DUCT (DOWN)		INSULATED FLEXIBLE DUCTWORK
RETURN AIR DUCT (SECTION)	R	ELEVATION CHANGE (RISE OR DROP)
RELIEF OR EXHAUST AIR DUCT (UP)		HIGH EFF. TAKE OFF FITTING WITH VOLUME DAMPER
RELIEF OR EXHAUST AIR DUCT (DOWN)	BD	BACKDRAFT DAMPER
RELIEF OR EXHAUST AIR DUCT (SECTION)		TURNING VANES
ROUND DUCT (UP)	VD	VOLUME CONTROL DAMPER
ROUND DUCT (DOWN)		VOLUME CONTROL DAMPER
ROUND DUCT (SECTION)	CAP	DUCT END CAP

	OPPOSED BLADE DAMPER
	PARALLEL BLADE DAMPER
FD	FIRE DAMPER (IN HORIZONTAL DUCT)
SD	SMOKE DAMPER (IN HORIZONTAL DUCT)
FD	FIRE DAMPER (IN VERTICAL DUCT)
SD	SMOKE DAMPER (IN VERTICAL DUCT)
FSD	FIRE/SMOKE DAMPER (IN HORIZONTAL DUCT)
FSD	FIRE/SMOKE DAMPER (IN VERTICAL DUCT)
AD	DUCT ACCESS PANEL
RP	RELIEF PANEL

H.V.A.C.

SUPPLY DIFFUSER		VAV TERMINAL UNIT
SUPPLY REGISTER		FAN POWERED VAV TERMINAL UNIT
SUPPLY SLOT DIFFUSER		SIDE WALL DIFFUSER
RETURN REGISTER		ROUND DIFFUSER
RETURN GRILLE		EXTERIOR LOUVER
EXHAUST REGISTER	X / CFM	SUPPLY IDENTIFICATION TAG X DENOTES TYPE
EXHAUST GRILLE	X / CFM	RETURN/ EXHAUST/LOUVER IDENTIFICATION TAG X DENOTES TYPE
DUAL DUCT TERMINAL UNIT	M	MOTORIZED ACTUATOR
		PNEUMATIC ACTUATOR

T	THERMOSTAT
T GD	THERMOSTAT WITH GUARD
XX-X	TEMPERATURE SENSOR - XX-X DENOTES SERVED
CO	CARBON MONOXIDE SENSOR
CO_2	CARBON DIOXIDE SENSOR
NO_X	NITROGEN DIOXIDE SENSOR
H	HUMIDITY SENSOR
P	PRESSURE SENSOR
S	TEMPERATURE SENSOR WITH GUARD
H	HUMIDISTAT
	EMERGENCY SHUTDOWN SWITCH

PLUMBING

DOMESTIC COLD WATER PIPING	AW	ACID WASTE BELOW FLOOR OR GRADE
DOMESTIC HOT WATER SUPPLY	AW	EXIST ACID WASTE BELOW FLOOR/GRADE
DOMESTIC HOT WATER RECIRC.	AW	ACID WASTE ABOVE FLOOR OR GRADE
PIPE REMOVAL	GW	GREASE WASTE BELOW FLOOR OR GRADE
SAN	GW	EXIST GREASE WASTE BELOW FLOOR/GRADE
EXISTING SANITARY BELOW FLOOR/GRADE	GW	GREASE WASTE ABOVE FLOOR OR GRADE
SANITARY ABOVE FLOOR OR GRADE	OSW	OIL/SAND BELOW FLOOR OR GRADE
ST	OSW	EXISTING OIL/SAND BELOW FLOOR/GRADE
EXISTING STORM BELOW FLOOR/GRADE	DSW	OIL/SAND ABOVE FLOOR OR GRADE
STORM ABOVE FLOOR OR GRADE	SCW	SOFTENED COLD WATER PIPING
SO	PD	PUMPED DISCHARGE
EXIST. STORM OVERFLOW BELOW FLOOR/GRADE	V	VENT PIPING
STORM OVERFLOW ABOVE FLOOR/GRADE	AV	ACID VENT PIPING
	CA	COMPRESSED AIR

PA	PROCESSED AIR	
IR	IRRIGATION PIPING	
P	TRAP PRIMER	
G (XX)	NATURAL GAS PIPING (PSIG)	
HB	HOSE BIBB	
WH	WALL HYDRANT	
CO	CLEAN OUT	
FCO	FLOOR CLEAN OUT	
	FLOOR DRAIN	
VTR	VENT THRU ROOF (X DENOTES IDENTIFICATION)	
RD	ROOF DRAIN	
ORD	OVERFLOW ROOF DRAIN	
DSN	DOWNSPOUT NOZZLE	

VALVES

GATE VALVE	STOP/CHECK GATE VALVE (ARROW IND. FLOW)	MULTIPURPOSE VALVE
ANGLE GATE VALVE	SPRING GATE CHECK VALVE (ARROW IND. FLOW)	PRESSURE REDUCING VALVE
BALL VALVE	SWING GATE CHECK VALVE (ARROW IND. FLOW)	PRESSURE REDUCING PILOT VALVE
LOCK	ANGLE STOP/CHECK VALVE	REDUCED PRESS. BACKFLOW ASSY.
BUTTERFLY VALVE	2-WAY ELECTROMOTOR VALVE	DOUBLE CHK VALVE BACKFLOW ASSY.
GLOBE VALVE	2-WAY AIRMOTOR VALVE	
ANGLE GLOBE VALVE	2-WAY MANUAL VALVE	DOUBLE DETECTOR CHECK VALVE
PLUG VALVE	3-WAY ELECTROMOTOR VALVE	OUTSIDE STEM & YOKE VALVE
DIAPHRAGM VALVE	3-WAY AIRMOTOR VALVE	QUICK CLOSING FUSIBLE LINK VALVE
DIAPHRAGM ACTUATED VALVE	3-WAY MANUAL VALVE	QUICK OPENING VALVE
VALVE IN VERTICAL LINE	SAFETY PRESSURE RELIEF VALVE	PRESSURE GAUGE & BALL VALVE
HOSE GATE VALVE	PRESSURE RELIEF VALVE	GATE VALVE WITH GLOBE VALVE BY-PASS
HOSE GLOBE VALVE	TEMPERATURE MIXING VALVE	GLOBE VALVE WITH GLOBE VALVE BY-PASS
HOSE ANGLE VALVE	AUTO FLOW VALVE	SPRINKLER - CONCEALED
SOLENOID VALVE	FLOAT VALVE	SPRINKLER - RECESSED
POST INDICATOR VALVE	LOCK SHIELD	SPRINKLER - SIDEWALL
	CIRCUIT SETTER	SPRINKLER - UPRIGHT
		SPRINKLER - ZONE CONTROL

FITTINGS

ELBOW	ELBOW - DOUBLE BRANCH	REDUCER - CONCENTRIC
LONG RADIUS ELBOW	ELBOW - SIDE OUTLET UP	REDUCER - ECCENTRIC STRAIGHT INVERT
SHORT RADIUS ELBOW	ELBOW - SIDE OUTLET DOWN	REDUCER - ECCENTRIC STRAIGHT CROWN
45° ELBOW	ELBOW - OUTLET DOWN	CAPPED CONNECTION
TEE	ELBOW - OUTLET UP	THREADED CONNECTION
CROSS	TEE - OUTLET DOWN	FLANGED CONNECTION
LATERAL	TEE - OUTLET UP	STRAINER
TEE - SINGLE SWEEP	TEE - SIDE OUTLET DOWN	STRAINER WITH BALL VALVE DRAIN
	TEE - SIDE OUTLET UP	STRAINER WITH COUPLER
	SIAMESE CONNECTION	BUSHING
		FLOW DIRECTION

MISCELLANEOUS

EQUIPMENT IDENTIFICATION TAG (ELECTRICAL CONNECTION REQUIRED)	NEW CONNECTION POINT	WC	WATER CLOSET
DETAIL REFERENCE SHEET REFERENCE	POINT OF DISCONNECT	UR	URINAL
	OA OUTSIDE AIR	L	LAVATORY
SECTION CUT REFERENCE SHEET REFERENCE	VA VENTILATION AIR	S	SINK
ELECTRICAL PANEL - SHOWN FOR COORDINATION PURPOSES ONLY	EA EXHAUST AIR	DF	DRINKING FOUNTAIN
ELECTRICAL PANEL - SHOWN FOR COORDINATION PURPOSES ONLY	RA RELIEF OR RETURN AIR	EWC	ELECTRIC WATER COOLER
ELECTRICAL PANEL - SHOWN FOR COORDINATION PURPOSES ONLY	SA SUPPLY AIR	SS	SERVICE SINK
ELECTRICAL TRANSFORMER - SHOWN FOR COORDINATION PURPOSES ONLY	MA MIXED AIR	SH	SHOWER
	RF RELIEF OR RETURN FAN	DWH	DOMESTIC WATER HEATER
	EF EXHAUST FAN	MSB	MOP SINK BASIN
	TYP TYPICAL		LIGHT LINEWORK = EXISTING OR DEMOLITION
			DARK LINEWORK = NEW

GENERAL MECHANICAL NOTES

A. LIGHT LINE WEIGHT INDICATES EXISTING ITEMS AND ASSOCIATED MATERIALS TO REMAIN. BOLD LINE WEIGHT INDICATES NEW WORK TO BE INSTALLED UNDER THIS CONTRACT.

B. ROUTING INDICATED ON DRAWINGS IS APPROXIMATE AND DOES NOT INCLUDE ALL OFFSETS, FITTINGS, VALVES, ETC. CONTRACTOR TO FIELD VERIFY DUCT SIZE AND SERVICE PRIOR TO FINAL CONNECTION. COORDINATE LOCATION OF HVAC WORK WITH LIGHTING, STRUCTURAL MEMBERS, PIPING SYSTEMS, ETC. PROVIDE OFFSETS AND CLEARANCES OR RELOCATE HVAC WORK AS REQUIRED TO AVOID CONFLICTS WITH WORK OF ALL OTHER TRADES.

C. HVAC WORK SHALL NOT BE LOCATED OVER ELECTRICAL, DATA, OR COMMUNICATION EQUIPMENT ROOMS. HVAC WORK SHALL NOT BE LOCATED ABOVE ELECTRICAL / DATA / COMMUNICATION EQUIPMENT OR PANELS.

D. SUPPORT ALL DUCTWORK, PIPING, EQUIPMENT, ETC. FROM BUILDING STRUCTURE. HOLD PIPING TIGHT TO BOTTOM OF STRUCTURAL MEMBERS OR RUN THROUGH JOIST WEBS IF POSSIBLE. DO NOT USE WIRE OR PERFORATED METAL TO SUPPORT PIPING. DO NOT SUPPORT PIPING FROM OTHER PIPING, DUCTWORK AND/OR ELECTRICAL CONDUITS. DO NOT SUPPORT FROM BOTTOM OF CHORD OF BAR JOIST OR FROM METAL ROOF DECK.

E. LOCATE AND INSTALL EQUIPMENT TO PROVIDE ALL CODE AND MANUFACTURER'S RECOMMENDED CLEARANCES. KEEP HVAC PIPING, DUCTWORK, ETC. OUT OF CLEARANCE AREAS.

F. ALL OPENINGS IN WALLS AND FLOORS FOR PIPING SHALL BE CORE DRILLED OR SAW CUT, UNLESS OTHERWISE NOTED.

G. ALL HVAC PIPING WORK SHALL BE LOCATED ABOVE CEILINGS, IN A PIPE CHASE, OR OTHER CONCEALED LOCATIONS, UNLESS OTHERWISE NOTED. LOCATE AND ARRANGE VALVES, DRAIN FITTINGS, ETC. TO BE ACCESSIBLE THROUGH LAY–IN CEILINGS, ACCESS PANELS OR ACCESS DOORS. PROVIDE ACCESS PANEL OR ACCESS DOOR FOR ALL VALVES, DRAIN FITTINGS, ETC. AT NON–ACCESSIBLE LOCATIONS.

H. SLOPE HVAC PIPING TO DRAIN VALVES. PROVIDE MANUAL AIR VENTS AT HIGH POINTS AND AT TOP OF RISERS.

Revisions:	Date

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Drawing Title: MECHANICAL SYMBOLS LEGEND AND GENERAL NOTES

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Date: MAY 10, 2013 | Checked: MKL | Drawn: LMB

Project Number: 636-13-126

Building Number: ONE

Drawing Number: M0.1
Dwg. 11 of 17

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Department of Veterans Affairs

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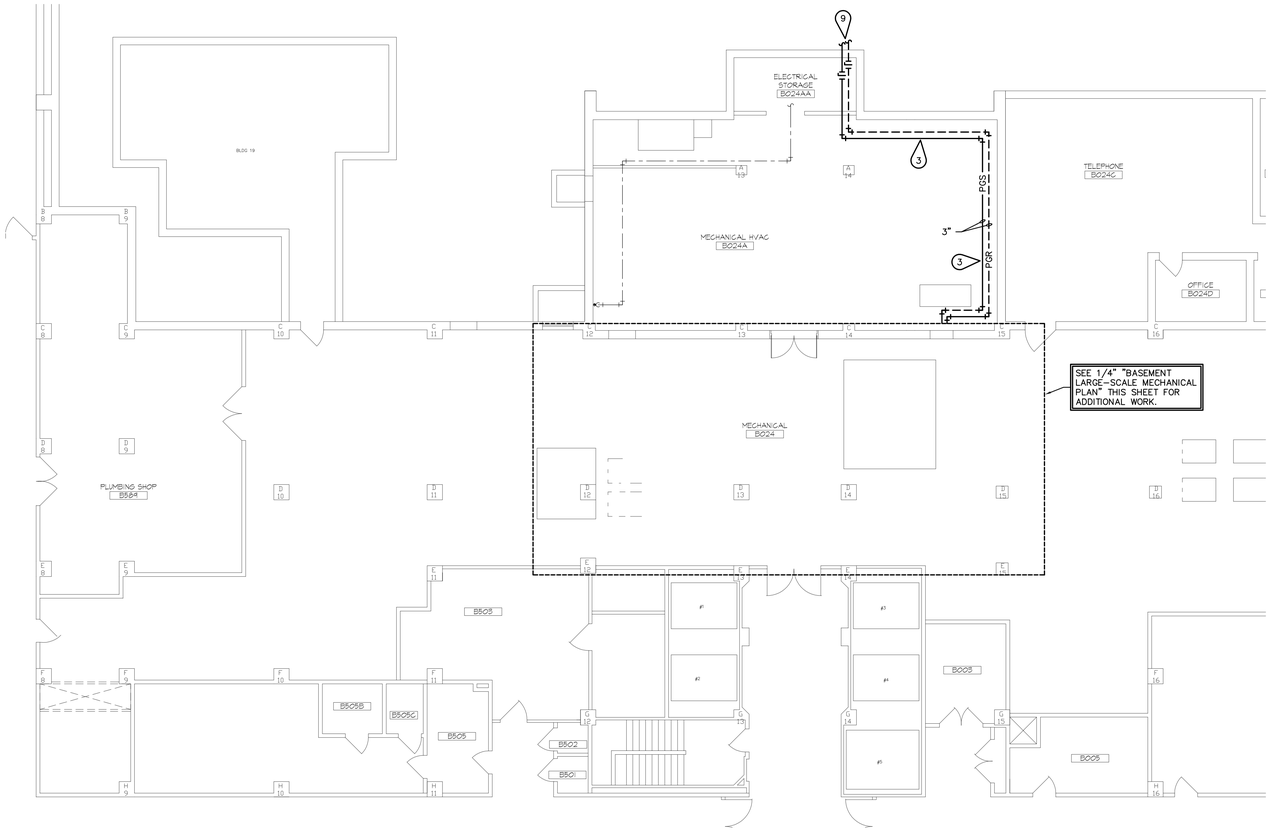
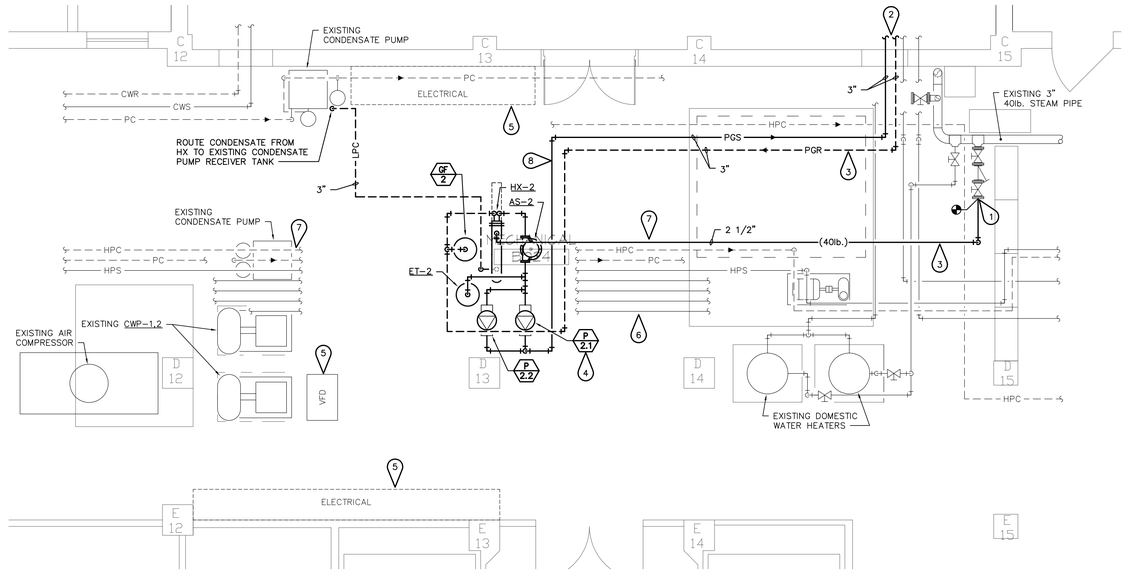
MECHANICAL KEYNOTES: (◇)

1. CONNECT NEW 2 1/2" 40lb. STEAM SUPPLY PIPE TO EXISTING VALVED AND CAPPED PIPE BRANCH.
2. REFER TO BASEMENT MECHANICAL PLAN, THIS SHEET, FOR CONTINUATION OF PIPING.
3. CONTRACTOR SHALL COORDINATE BEST ROUTING OF NEW PIPING IN THIS AREA WITH EXISTING CONDITIONS.
4. PUMPS P2.1, P2.2, HX-2, AS-2, ET-2, GF-2 AND ALL ASSOCIATED CONNECTED PIPING, VALVES, ETC. SHALL BE FACTORY ASSEMBLED ON A PRE-PACKAGED STEEL SKID. INSTALL SKID ON 4" THICK CONCRETE EQUIPMENT PAD. REFER TO **DETAIL 1/M3.1**.
5. MAINTAIN REQUIRED CLEARANCES IN FRONT OF ALL ELECTRICAL EQUIPMENT.
6. EXISTING OVERHEAD ELECTRICAL CONDUITS AT +6'-10" A.F.F.
7. EXISTING OVERHEAD STEAM AND CONDENSATE PIPING AT +6'-2" A.F.F.
8. MAINTAIN CLEARANCE OF +6'-2" A.F.F. (MIN.) ON ALL NEW PIPING INSTALLATIONS ABOVE WALKWAY AREAS IN THIS ROOM.
9. SEE SHEET M2.2 FOR CONTINUATION OF PIPING.



1 M2.1 BASEMENT MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH



2 M2.1 BASEMENT LARGE-SCALE MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

PLAN NORTH

Revisions:	Date

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Drawing Title	BASEMENT MECHANICAL PLANS
Project Title	UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location	VAMC Omaha Nebraska
Project Number	636-13-126
Building Number	ONE
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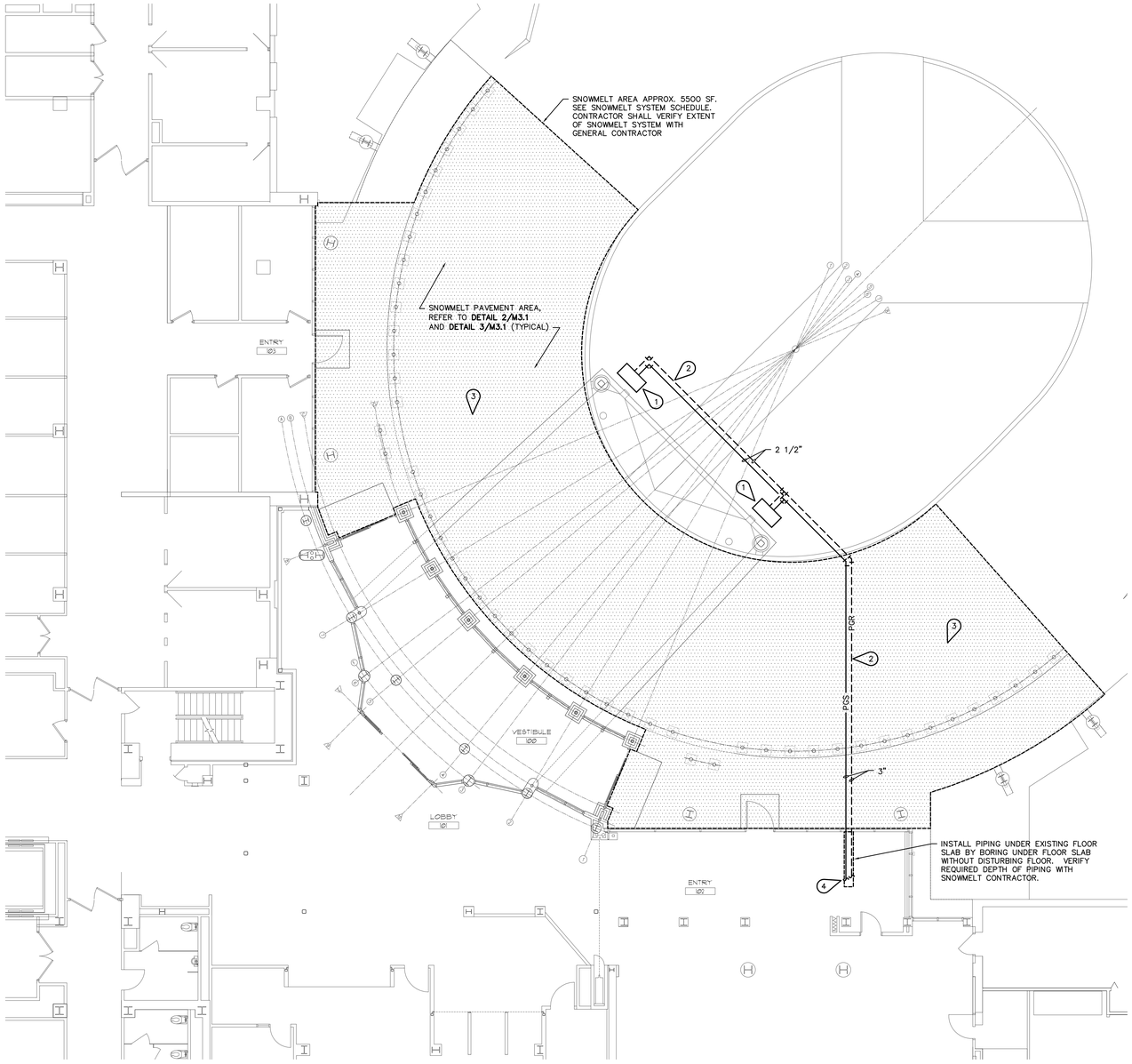

MECHANICAL KEYNOTES: (◇)

1. SNOWMELT SYSTEM MANIFOLD BOX. SNOWMELT CONTRACTOR SHALL VERIFY BEST LOCATION FOR INSTALLATION OF MANIFOLD BOX IN THIS AREA WITH EXISTING CONDITIONS.
2. UNDERGROUND PGS/PGR PIPING SHALL BE FACTORY INSULATED PEX TUBING SPECIFICALLY DESIGNED FOR UNDERGROUND SNOWMELT INSTALLATIONS.
3. COORDINATE SNOWMELT PIPING INSTALLATION WITH PHASING OF DRIVE REPLACEMENT.
4. SEE M2.1 FOR CONTINUATION OF PIPING.

TEMPERATURE CONTROL – SEQUENCE OF OPERATION:

1. GENERAL: EXISTING CONTROL SYSTEM IS AN ANDOVER SYSTEM MAINTAINED BY CSI OF OMAHA. ALL NEW EQUIPMENT SHALL INTERFACE WITH THE EXISTING BMS PER THE FOLLOWING SEQUENCES.
2. SNOW MELT SYSTEM: ALL OPERATIONS OF THE SNOW MELT SYSTEM SHALL BE CONTROLLED THROUGH THE SNOW MELT SYSTEM CONTROL PANEL. BMS SHALL CONTROL SNOW MELT SYSTEM ON/OFF AND SHALL MONITOR STATUS AND ALARMS.
3. GLYCOL FEEDER GF-2: BMS SHALL MONITOR STATUS AND LOW LEVEL ALARM.

1 M2.2 FIRST FLOOR MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

Revisions:	Date

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Drawing Title: FIRST FLOOR MECHANICAL PLAN

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Dwg. 13 of 17

Office of Construction and Facilities Management
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MECHANICAL / ELECTRICAL COORDINATION SCHEDULE

ABBREVIATION:

E	ELECTRICAL CONTRACTOR	HP	HORSEPOWER	4X	NEMA 4X	V	VOLTAGE
M	MECHANICAL CONTRACTOR	KW	KILOWATTS	PH	PHASE	VFD	VARIABLE FREQUENCY
I	INTEGRAL WITH EQUIPMENT	MR	PER MANUFACTURER'S	RE	REVERSING		DRIVE
C	COMBINATION STARTER AND		RECOMMENDATION	RV	REDUCED VOLTAGE	2S	TWO SPEED
	SAFETY SWITCH	NF	NON-FUSED	SF	FUSE HOLDER WITH SWITCH	3S	THREE SPEED
CB	CIRCUIT BREAKER	NR	NON-REVERSING	SS	SAFETY SWITCH		
FV	FULL VOLTAGE	N1	NEMA 1	SH	HP RATED SWITCH		
FLA	FULL LOAD AMPS	3R	NEMA 3R	ST	THERMAL ELEM. SWITCH		

REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

MARK	DESCRIPTION	RATING			DISCONNECT					MOTOR STARTER			NAMEPLATE	REMARKS
		LOAD	V	PH	FURNISH/ INSTALL BY	TYPE	RATING (AMPS)	FUSE SIZE	ENCL.	FURNISH/ INSTALL BY	TYPE/ NEMA SIZE	ENCL.	MINIMUM SCCR (AMPS)	
P-2,1	GLYCOL SNOW MELT PUMP	3 HP	208	3	E/E	C	30	MR	N1	E/E	FVNR #0	N1		
P-2,2	GLYCOL SNOW MELT PUMP	3 HP	208	3	E/E	C	30	MR	N1	E/E	FVNR #0	N1		
GF-2	SNOW MELT GLYCOL FEEDER	1/3 HP	120	1	E/E	SH	20	MR	N1	M/M	-	N1		

GENERAL NOTES:

A. VERIFY/COORDINATE ALL RATINGS FOR EQUIPMENT. WHERE SUCH RATINGS ARE OTHER THAN THAT INDICATED ON MECHANICAL/ELECTRICAL COORDINATION SCHEDULE, PROVIDE DISCONNECTS, MOTOR STARTERS, OVERCURRENT DEVICES AND RELATED REVISIONS ACCORDINGLY. WHERE EQUIPMENT IS PROVIDED WITH RATINGS OTHER THAN THAT INDICATED, CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND ASSOCIATED COSTS FOR REVISIONS.

B. PROVIDE FRACTIONAL HORSEPOWER MOTORS WITH INTEGRAL OVERLOAD PROTECTION.

C. EQUIPMENT LISTED IN SCHEDULE MAY APPEAR IN NUMEROUS LOCATIONS. EQUIPMENT MARKS ARE DESIGNATED BY UNIQUE IDENTIFIERS ON THE PLANS; I.E., HP-1.1, HP-1.2. IN THESE INSTANCES, THE ELECTRICAL REQUIREMENTS DO NOT CHANGE FROM ONE MARK TO THE NEXT, ONLY THE UNIQUE IDENTIFIER CHANGES.

D. HORSEPOWER RATED SWITCHES (SH): FOR 120 V MOTORS LESS THAN 1/2 HP, PROVIDE FUSEHOLDER WITH SWITCH, FUSED PER MANUFACTURER'S RECOMMENDATION AND NEC REQUIREMENTS. FOR 120 V MOTORS RATED 1/2 HP OR 3/4 HP, PROVIDE HP RATED TOGGLE SWITCH (WHERE BRANCH CIRCUIT OVERCURRENT DEVICE MEETS NEC REQUIREMENTS FOR SHORT-CIRCUIT PROTECTION) OR FUSED SAFETY SWITCH.

E. INDUSTRIAL CONTROL PANELS AS DEFINED BY NEC ARTICLE 409, MOTOR CONTROLLERS, HERMETIC REFRIGERANT MOTOR COMPRESSORS AND EQUIPMENT SHALL BE MARKED WITH INFORMATION AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC). MARK IN ACCORDANCE WITH NEC ARTICLE 409.110 FOR INDUSTRIAL CONTROL PANELS, NEC ARTICLE 430.8 FOR CONTROLLERS AND NEC ARTICLE 440.4(B) FOR HERMETIC REFRIGERANT MOTOR COMPRESSORS AND EQUIPMENT. THE MARKED SHORT CIRCUIT CURRENT RATING (SCCR) SHALL BE NO LESS THAN THE VALUE INDICATED ABOVE.

RADIANT SNOW MELT SYSTEM SCHEDULE

SERVES	TYPE	PIPING DEPTH	DISTRIBUTION PIPING	AREA (FT2)	SUPPLY FLUID (˚F)	RETURN FLUID (˚F)	GPM	HEAD (FT)	REQUIRED HEAT (BTUH)	MANUFACTURER	REMARKS
MAIN ENTRY DRIVE AND SIDEWALK - ZONE 1	PIPE EMBEDDED IN CONCRETE SLAB	2" (MIN.) - REMARK 5	(24) 250 FT CIRCUITS, 5/8" PEX-A O2 BARRIER, 6" SPACING	2,750	140	115	53	60	550,000	HEAT-LINK OR APPROVED EQUAL	1, 2, 3, 4, 5, 6
MAIN ENTRY DRIVE AND SIDEWALK - ZONE 2	PIPE EMBEDDED IN CONCRETE SLAB	2" (MIN.) - REMARK 5	(24) 250 FT CIRCUITS, 5/8" PEX-A O2 BARRIER, 6" SPACING	2,750	140	115	53	60	550,000	HEAT-LINK OR APPROVED EQUAL	1, 2, 3, 4, 5, 6

REMARKS:

1. WORKING FLUID SHALL BE 50% PROPYLENE GLYCOL SOLUTION.
2. PACKAGED SYSTEM SHALL BE A COMPLETE FACTORY ASSEMBLED SYSTEM PROVIDED BY TIGERFLOW OR APPROVED EQUAL INCLUDING HEAT EXCHANGER, PUMPS, EXPANSION TANK, GLYCOL FEEDER, STEAM CONTROL VALVE, SNOWLINE SENSOR, CONTROLS AND ASSOCIATED VALVES AND FITTINGS.
3. MANIFOLDS, MANIFOLD BOXES, LOOP BALANCING/ISOLATION VALVES, AND TUBING SHALL BE SHIPPED LOOSE FOR FIELD INSTALLATION.
4. SNOW MELT SYSTEM SHALL BE PROVIDED ONLY UNDER ALTERNATE #1.
5. DRIVE PAVING THICKNESS IS 7 INCHES. SIDEWALK PAVING THICKNESS IS 4 INCHES.
6. COORDINATE ZONING OF SNOW MELT SYSTEM WITH PHASING OF DRIVE REPLACEMENT.

PUMP SCHEDULE

MARK	SERVES	TYPE	GPM	HEAD FT.	RPM	MANUFACTURER & MODEL NO.	REMARKS
P-2,1	SNOW MELT SYSTEM	VERTICAL INLINE	105	50	1,750	PATTERSON MODEL V2C7A-CC 2X2X7.5	1, 2, 3, 4, 5
P-2,2	SNOW MELT SYSTEM	VERTICAL INLINE	105	50	1,750	PATTERSON MODEL V2C7A-CC 2X2X7.5	1, 2, 3, 4, 5

REMARKS:

1. SEE MECHANICAL/ELECTRICAL COORDINATION SCHEDULE FOR ELECTRICAL DATA.
2. PROVIDE WITH PREMIUM EFFICIENCY INVERTER-DUTY MOTOR.
3. PUMP SHALL BE MOUNTED ON FACTORY ASSEMBLED AND PACKAGED SKID BY TIGERFLOW OR APPROVED EQUAL.
4. PUMP WORKING FLUID SHALL BE 50% PROPYLENE GLYCOL.
5. PUMP SHALL BE PROVIDED ONLY UNDER ALTERNATE NO. 1.

SHELL AND TUBE HEAT EXCHANGER SCHEDULE

MARK	SERVES	TYPE	WATER SIDE (TUBES)				STEAM SIDE (SHELL)		MANUFACTURER & MODEL NO.	REMARKS
			GPM	E.W.T.	L.W.T.	P.D. (FT.)	PSIG	LB/HR		
HX-2	SNOW MELT SYSTEM	STEAM TO HOT WATER	105	105° F	140° F	2.0	40	1293	TRUSH MODEL S8-36-2A	1, 2, 3

REMARKS:

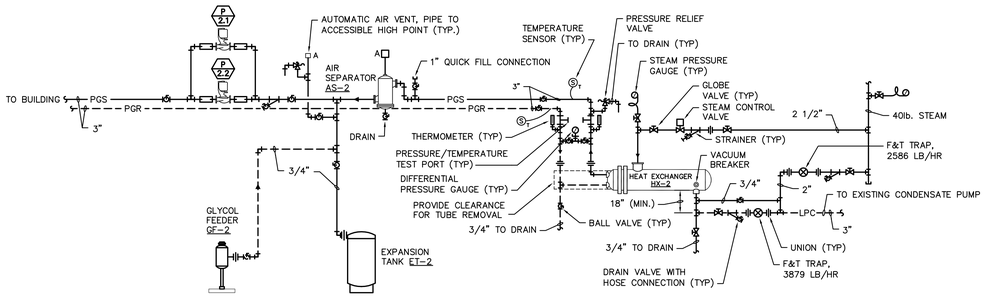
1. TUBESIDE WORKING FLUID SHALL BE 50% PROPYLENE GLYCOL.
2. HEAT EXCHANGER SHALL BE MOUNTED ON FACTORY ASSEMBLED AND PACKAGED SKID BY TIGERFLOW OR APPROVED EQUAL.
3. HEAT EXCHANGER SHALL BE PROVIDED ONLY UNDER ALTERNATE NO. 1.

HYDRONIC SYSTEM SPECIALTIES SCHEDULE

MARK	SERVES	TYPE	GPM	HEAD (FT)	GAL.	CONNECTION (IN)	MANUFACTURER & MODEL NO.	REMARKS
ET-2	SNOW MELT SYSTEM	BLADDER TYPE EXPANSION TANK	---	---	132	1-1/2	PATTERSON MODEL NLA-500	1, 2, 3
AS-2	SNOW MELT SYSTEM	COELESCING AIR SEPARATOR			---	3	THRUSH MODEL HVR-3	1, 3
GF-2	SNOW MELT SYSTEM	GLYCOL FEED SYSTEM	---	---	55	---	GENERAL TREATMENT PRODUCTS GP55-E4-1	1, 3
CF-1	SNOW MELT SYSTEM	CHEMICAL POT FEEDER	---	---	2	---	GENERAL TREATMENT PRODUCTS FB2/QC	1, 3

REMARKS:

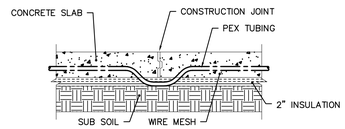
1. ALL EQUIPMENT SHALL BE MOUNTED ON A FACTORY PRE-ASSEMBLED SKID MANUFACTURED BY TIGERFLOW OR APPROVED EQUAL.
2. FULL ACCEPTANCE VOLUME INDICATED. ASME CERTIFIED TANK.
3. SNOW MELT SYSTEM SHALL BE PROVIDED ONLY UNDER ALTERNATE NO. 1.

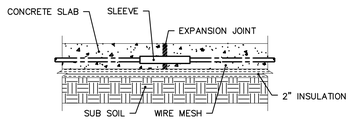


NOTE: ALL EQUIPMENT, CONNECTING PIPING, VALVES AND FITTINGS SHOWN SHALL BE FACTORY ASSEMBLED ON PRE-PACKAGED SKID.

SNOW MELT SYSTEM PIPING SCHEMATIC (1)

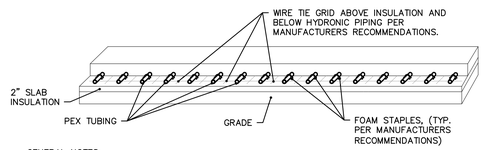
NO SCALE





PAVEMENT SNOW MELT: CONSTRUCTION, EXPANSION AND CONTROL JOINTS (2)

NO SCALE



GENERAL NOTES:

1. BASE MATERIAL MUST BE COMPACTED.
2. COVER TOP OF TUBING WITH A MINIMUM OF 2" OF CONCRETE.
3. SNOW MELT CONTRACTOR SHALL PROVIDE WIRE MESH TIE GRID, 2" RIGID INSULATION AND ALL OTHER ACCESSORIES REQUIRED OR RECOMMENDED BY THE SNOW MELT SYSTEM MANUFACTURER.

PAVEMENT SNOW MELT: TYPICAL HYDRONIC PIPING SECTION DETAIL (3)

NO SCALE

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
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Revisions: | Date

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ELECTRICAL SYMBOLS LEGEND
(AS APPLICABLE)

SWITCHING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
$a	SINGLE POLE SWITCH - LETTER INDICATES SWITCH LEG	$M	MOMENTARY CONTACT SWITCH
$2	DOUBLE POLE SWITCH	$K	KEY OPERATED SWITCH
$3	THREE-WAY SWITCH	$P	PILOT LIGHT SWITCH
$4	FOUR-WAY SWITCH	$T	TIMER SWITCH
$D	DIMMER SWITCH	$OS	OCCUPANCY SENSOR - WALL SWITCH
$H	HORSEPOWER RATED SWITCH	OS	OCCUPANCY SENSOR - CEILING MOUNTED
$F	FUSED SWITCH	OS	OCCUPANCY SENSOR - WALL MOUNTED
$TE	THERMAL ELEMENT		
1	LOW VOLTAGE SWITCH - NUMBER INDICATES TYPE		

DASHED LINE INDICATES GROUPS OF LUMINAIRES TO BE CONTROLLED BY OCCUPANCY SENSOR(S).

LIGHTING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLUORESCENT LUMINAIRE		WALL MOUNTED LUMINAIRE
	FLUORESCENT LUMINAIRE - LAMPS SWITCHED SEPARATE		WALL MOUNTED LUMINAIRE - NIGHT LIGHT
	FLUORESCENT LUMINAIRE WITH AUXILIARY LIGHT		WALL MOUNTED LUMINAIRE - EMERGENCY
	FLUORESCENT LUMINAIRE - EMERGENCY		EXIT SIGN
	FLUORESCENT LUMINAIRE - NIGHT LIGHT		PHOTOCELL, DAYLIGHT SENSOR
	FLUORESCENT WALL MOUNTED LUMINAIRE		EXTERIOR LUMINAIRE - POLE MOUNTED
	FLUORESCENT WALL MOUNTED LUMINAIRE - EMERGENCY		EXTERIOR LUMINAIRE - BOLLARD
	FLUORESCENT WALL MOUNTED LUMINAIRE - NIGHT LIGHT		EXTERIOR LUMINAIRE - POLE MOUNTED
	FLUORESCENT STRIP LUMINAIRE		EXTERIOR LUMINAIRE - BOLLARD
	FLUORESCENT STRIP LUMINAIRE - EMERGENCY		FLOOD LIGHT LUMINAIRE
	FLUORESCENT STRIP LUMINAIRE - NIGHT LIGHT		EMERGENCY BATTERY PACK
	LUMINAIRE		EMERGENCY LUMINAIRE REMOTE HEADS
	LUMINAIRE - NIGHT LIGHT		COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT
	LUMINAIRE - EMERGENCY		TRACK LUMINAIRE

POWER DEVICES

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SINGLE RECEPTACLE		LIGHTING & APPLIANCE PANELBOARD
	DUPLEX RECEPTACLE		POWER DISTRIBUTION EQUIPMENT
	FOUR-PLEX RECEPTACLE - TWO DUPLEX RECEPTACLES	T	TRANSFORMER
	RANGE RECEPTACLE		ENCLOSED CIRCUIT BREAKER
	SPECIAL RECEPTACLE		CABINET (TYPE INDICATED)
G	DUPLEX RECEPTACLE - GROUND-FAULT CIRCUIT-INTERRUPTER		MOTOR STARTER, LIGHTING CONTACTOR
IG	DUPLEX RECEPTACLE - ISOLATED GROUND		SAFETY SWITCH
WR	DUPLEX RECEPTACLE - WEATHER-RESISTANT GROUND-FAULT CIRCUIT-INTERRUPTER		COMBINATION MOTOR STARTER & SAFETY SWITCH
A	DUPLEX RECEPTACLE - ON APPLIANCE CIRCUIT		MOTOR
T	DUPLEX RECEPTACLE - TAMPER-RESISTANT	J	CORD DROP (J-BOX AT CEILING)
F	DUPLEX RECEPTACLE - ARC-FAULT RATED		CORD DROP (SPECIAL RECEPTACLE AT CEILING)
M	DUPLEX RECEPTACLE - MOUNTED IN MILLWORK		MULTI-OUTLET ASSEMBLY
B	DUPLEX RECEPTACLE - MOUNTED BELOW COUNTER		FLUSH FLOOR BOX
	DUPLEX RECEPTACLE - CEILING MOUNTED		FLUSH POKE-THRU
	DUPLEX RECEPTACLE - BOTTOM HALF SWITCHED		DAMPER
	SPLIT-WIRE RECEPTACLE	S	SOLENOID
J	JUNCTION BOX		

RACEWAYS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	HOME RUN TO PANEL	T	TELEPHONE CONDUIT
	UNSWITCHED LIGHTING CIRCUIT		CONDUIT UP
	MASTER SATELLITE FIXTURE CONNECTION		CONDUIT DOWN
E	EMERGENCY CIRCUIT		CONDUIT SEAL
NL	NIGHT LIGHTING CIRCUIT		CABLE TRAY
S	SOUND SYSTEM RACEWAY	#"	CONDUIT SLEEVE (NUMBER INDICATES SIZE)

MISCELLANEOUS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
XX X	EQUIPMENT IDENTIFICATION TAG	NF	NON-FUSED
X XXX	DETAIL REFERENCE / SHEET REFERENCE	WP	WEATHER-PROOF
		WG	WIRE GUARD
FACP	FIRE ALARM CONTROL PANEL	XP	EXPLOSION PROOF
FAAP	FIRE ALARM ANNUNCIATOR PANEL	30/3/10/3R	RATED AMPACITY/NO. POLES/FUSING REQ'D/NEMA ENCL. NO.
HOA	HAND-OFF-AUTO	P X	PROJECTOR INPUT STATION - LETTER INDICATES TYPE
CCT.	CIRCUIT		PROJECTOR CONTROL STATION
PART. CCT.	PARTIAL CIRCUIT		LIGHT LINEWORK = EXISTING OR DEMOLITION
			DARK LINEWORK = NEW

COMMUNICATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	TELEPHONE CABINET	C	CLOCK HANGER OUTLET
W	TELEPHONE OUTLET - WALL MOUNTED	C	CLOCK - WALL MOUNTED
#	TELEPHONE OUTLET BOX	C 2	CLOCK - CEILING MOUNTED (DOUBLE FACE)
#	DATA OUTLET BOX	C S	CLASSROOM CLOCK & SPEAKER
#	PHONE OUTLET BOX - CEILING MOUNTED	P	PROGRAM BELL
#	DATA OUTLET BOX - CEILING MOUNTED		INTERCOM CALL SWITCH
	COMBINATION TELEPHONE/DATA OUTLET BOX - ONE JACK EACH	X	INTERCOM ADMINISTRATION STATION (LETTER INDICATES TYPE)
	DATA OUTLET BOX - BLANK PLATE, 1" CONDUIT	X	INTERCOM CLASSROOM/STAFF STATION (LETTER INDICATES TYPE)
M #	MICROPHONE OUTLET (NUMBER INDICATES QUANTITY)	X	AUDIO/VISUAL AUXILIARY OUTLET (LETTER INDICATES TYPE)
M #	MICROPHONE OUTLET - WALL MOUNTED (NUMBER INDICATES QUANTITY)	A	T.V. ANTENNA OUTLET
L #	LINE INPUT OUTLET (NUMBER INDICATES QUANTITY)	V	INTERCOM/PAGING VOLUME CONTROL
L #	LINE INPUT OUTLET - WALL MOUNTED (NUMBER INDICATES QUANTITY)	V	SOUND SYSTEM VOLUME CONTROL
S	INTERCOM/PAGING SPEAKER - CEILING MOUNTED		GROUND BAR
S	INTERCOM/PAGING SPEAKER - WALL MOUNTED		
S	INTERCOM/PAGING SPEAKER HORN - WALL MOUNTED		
S	SOUND SYSTEM SPEAKER - CEILING MOUNTED		
S	SOUND SYSTEM SPEAKER - WALL MOUNTED		

NUMBER BY SYMBOL INDICATES QUANTITY OF JACKS. ZERO INDICATES EMPTY OUTLET BOX, BLANK PLATE AND CONDUIT.

NOTE: SYMBOLS SHOWN "STACKED" ON THE FLOOR PLANS INDICATE THAT THE DEVICES ARE TO BE LOCATED IN THE SAME OUTLET BOX AND FACEPLATE. (I.E. 1 2)

FIRE ALARM

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
HD R/T	HEAT DETECTOR - COMBINATION		FIRE ALARM COMBINATION SPEAKER/VISUAL - WALL MOUNTED
HD F	HEAT DETECTOR - FIXED TEMPERATURE	F	FIRE ALARM BELL - WALL MOUNTED
HD EV	HEAT DETECTOR - FIXED TEMPERATURE (CONNECTED TO ELEVATOR RECALL)	F	FIRE ALARM HORN - CEILING MOUNTED
SD	SMOKE DETECTOR		FIRE ALARM VISUAL SIGNAL - CEILING MOUNTED
SD DM	SMOKE DETECTOR - DUCT MOUNTED		FIRE ALARM COMBINATION HORN/VISUAL - CEILING MOUNTED
SD EV	SMOKE DETECTOR (CONNECTED TO ELEVATOR RECALL)	F	FIRE ALARM SPEAKER - CEILING MOUNTED
F	FIRE ALARM MANUAL STATION		FIRE ALARM COMBINATION SPEAKER/VISUAL - CEILING MOUNTED
F	FIRE ALARM HORN - WALL MOUNTED		FLOW SWITCH
	FIRE ALARM VISUAL SIGNAL - WALL MOUNTED		TAMPER SWITCH
	FIRE ALARM COMBINATION HORN/VISUAL - WALL MOUNTED		DUCT DETECTOR REMOTE ALARM INDICATOR
F	FIRE ALARM SPEAKER - WALL MOUNTED	R	FAN SHUT-DOWN RELAY
			MAGNETIC DOOR HOLDER

SECURITY

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PUSHBUTTON STATION		MOTION DETECTOR
	PUSHBUTTON STATION, 'P' INDICATES PILOT	KP	KEYPAD
	DOOR MONITOR SWITCH	ES	ELECTRIC STRIKE
	DOOR SWITCH	CR	CARD READER
	DOOR BELL CHIME/BUZZER	PS	POWER SUPPLY
	DOOR CONTACT		SECURITY CAMERA

GENERAL ELECTRICAL NOTES

A. ALL WIRING SHALL BE INSTALLED IN CONTINUOUS RACEWAY.

B. ALL CONDUITS IN NEW WALLS, EXISTING STUD WALLS, OR IN AREAS WITH SUSPENDED CEILINGS SHALL BE INSTALLED CONCEALED.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING, PAINTING, REPAIRING OR REPLACEMENT OF ALL WALLS, CEILINGS, OR OTHER BUILDING ELEMENTS WHICH ARE DISTURBED AS PART OF THE DEMOLITION OR INSTALLATION OF ELECTRICAL WORK.

D. LABELING FOR PANELBOARD DIRECTORIES, FIRE ALARM PANEL PROGRAMMING, ETC. SHALL USE ROOM NUMBERS ASSIGNED BY OWNER AND NOT ROOM NUMBERS LISTED ON DRAWINGS. LABELS ON PANELBOARD DIRECTORY SHALL INCLUDE A DESCRIPTION OF LOAD SUCH AS LIGHTS, RECEPTACLES, MECH. UNIT LOCATIONS, ETC.

E. MULTIWIRE BRANCH CIRCUITS AS DEFINED BY THE NATIONAL ELECTRICAL CODE (CIRCUITS WITH COMMON NEUTRAL) SHALL NOT BE USED. EXCEPTION: WHERE AN EQUIPMENT MANUFACTURER REQUIRES A MULTIWIRE BRANCH CIRCUIT FOR ONLY ONE UTILIZATION EQUIPMENT AND WHERE ALL UNGROUNDED CONDUCTORS OF THAT CIRCUIT ARE OPENED SIMULTANEOUSLY BY THE BRANCH CIRCUIT OVERCURRENT DEVICE.

F. A CABLE OR RACEWAY TYPE WIRING METHOD, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS NEAR METAL–CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THE NEAREST OUTER SURFACE OF THE CABLE OR RACEWAY IS NOT LESS THAN 6 INCHES FROM THE NEAREST SURFACE OF THE ROOF DECKING. EXCEPTION: RIGID METAL CONDUIT AND INTERMEDIATE METAL CONDUIT SHALL NOT BE REQUIRED TO MAINTAIN THIS CLEARANCE.

G. REFER TO MECHANICAL/ELECTRICAL COORDINATION SCHEDULE SHEET M3.1 FOR ADDITIONAL REQUIREMENTS FOR DISCONNECTS, MOTOR STARTERS, ETC.

three inches = one foot; one and one half inches = one foot; one inch = one foot; three quarters inch = one foot; one half inch = one foot; three eighths inch = one foot; one quarter inch = one foot; one eighth inch = one foot

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Revisions: | Date

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Field	Value
Drawing Title	ELECTRICAL SYMBOLS AND GENERAL NOTES
	CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)
Project Title	UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location	VAMC Omaha Nebraska
Date	MAY 10, 2013
Checked	RJH
Drawn	SPG
Project Number	636-13-126
Building Number	ONE
Drawing Number	E0.1
	Dwg. 15 of 17

Office of Construction and Facilities Management

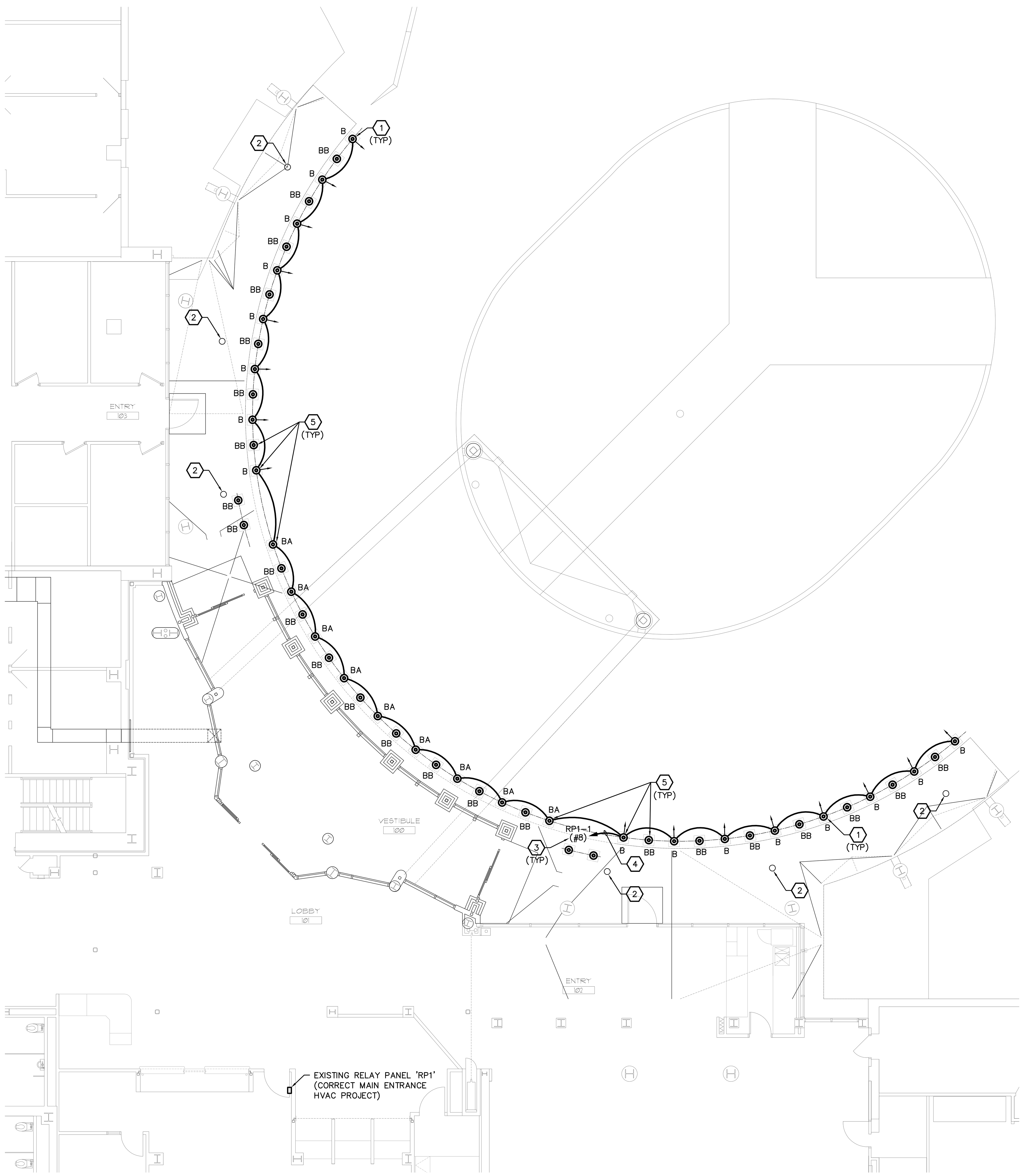
Department of Veterans Affairs

VA FORM 08-6231

SEE 'GENERAL ELECTRICAL NOTES', SHEET E0.1, FOR ADDITIONAL ELECTRICAL REQUIREMENTS

ELECTRICAL DEMOLITION KEYNOTES: (⬡)

1. ARROW INDICATES DIRECTION OF SHIELDING. 'OPEN' SIDE OF BOLLARD TO FACE SIDEWALK.
2. RELAMP EXISTING DOWNLIGHT WITH PHILIPS 100W WHITE SON HIGH PRESSURE SODIUM LAMP.
3. NUMBER INDICATES THE MINIMUM WIRE SIZE FOR CIRCUIT.
4. CONNECT TO EXISTING CIRCUIT RP1–1.
5. BOLLARDS HAVE EMBEDDED SECURITY CORE FOR FORCE PROTECTION. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR MOUNTING CONDITIONS.



1/E4.1 PARTIAL FIRST FLOOR LIGHTING PLAN

SCALE: 1/8 INCH = 1 FOOT

12" 0 5' 10' 15'

LUMINAIRE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	SERIES	CATALOG NO.	LAMP QTY	LAMP TYPE	FINISH	MOUNTING	INPUT WATTS	VOLTS	ACCEPTABLE MANUFACTURERS	REMARKS
B	ILLUMINATED STAINLESS STEEL BOLLARD WITH EMBEDDED SECURITY CORE AND 180° SCAPE SHIELD.	FORMS & SURFACES	LIGHT COLUMN SERIES 600	LCO-SEC-604 EMBEDDED SECURITY CORE 180° PERFORATED SHIELD (SCAPE)	2	REMARK 3	REMARK 2	BOLLARD	52 W	120 V	-	1,5
BA	ILLUMINATED STAINLESS STEEL BOLLARD WITH EMBEDDED SECURITY CORE AND 360° SCAPE SHIELD.	FORMS & SURFACES	LIGHT COLUMN SERIES 600	LCO-SEC-604 EMBEDDED SECURITY CORE 360° PERFORATED SHIELD (SCAPE)	2	REMARK 3	REMARK 2	BOLLARD	52 W	120 V	-	1,5
BB	UNLIT STAINLESS STEEL BOLLARD WITH EMBEDDED SECURITY CORE AND 360° SCAPE SHIELD.	FORMS & SURFACES	LIGHT COLUMN SERIES 600	REMARK 4	-	-	REMARK 2	BOLLARD	-	-	-	5

LUMINAIRE SCHEDULE REQUIREMENTS:

A. SUBMIT SHOP DRAWINGS FOR EACH LUMINAIRE, BALLAST, AND LAMP TYPE USED ON PROJECT.

B. CONTRACTOR SHALL FIELD VERIFY VOLTAGE OF ALL LUMINAIRES PRIOR TO ORDERING.

C. BALLASTS FOR LINEAR FLUORESCENT T5 & T5HO LAMPS SHALL BE GE ULTRASTART SERIES (OR EQUAL BY ADVANCE OPTANIUM SERIES). BALLAST CHARACTERISTICS SHALL BE: PROGRAMMED START, OPERATING VOLTAGE RANGE OF 120-277V ±10%, BALLAST FACTOR GREATER THAN 0.99 (U.N.O.), THD OF 10% OR LESS, PF GREATER THAN 0.95, AND A FIVE YEAR WRITTEN REPLACEMENT WARRANTY FROM DATE OF MANUFACTURE.

D. PHILIPS, OSRAM/SYLVANIA, G.E. AND VENTURE ARE ACCEPTABLE LAMP MANUFACTURERS.

E. ALL FLUORESCENT LAMPS SHALL BE LOW MERCURY TCLP COMPLIANT TYPE.

G. PROVIDE FACTORY INSTALLED INTEGRAL DISCONNECTING MEANS FOR FLUORESCENT LIGHT LUMINAIRES PER 2011 NEC ARTICLE 410.130.(G). NOTE THAT EXCEPTION NO. 4 AND EXCEPTION NO. 5 WILL NOT BE ACCEPTED.

LUMINAIRE SCHEDULE REMARKS:

1. PROVIDE COLD WEATHER BALLAST RATED FOR NO HIGHER THAN -15°F MINIMUM STARTING TEMPERATURE.
2. CUSTOM RAL POWDERCOAT COLOR TO BE SELECTED BY ARCHITECT. SHIELDING FINISH TO MATCH HOUSING.
3. PROVIDE F24T5HO/830 3000K LAMP WITH AMALGAM TECHNOLOGY FOR LOW STARTING TEMPERATURES.
4. PROVIDE UNLIT VERSION OF LCO-SEC-604 BOLLARD WITH EMBEDDED SECURITY CORE AND 360° PERFORATED SHIELD (SCAPE).
5. BOLLARDS HAVE EMBEDDED SECURITY CORE FOR FORCE PROTECTION. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR MOUNTING DETAILS.

Revisions: | Date

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Drawing Title: PARTIAL FIRST FLOOR LIGHTING PLAN

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE

Location: VAMC Omaha Nebraska

Date: MAY 10, 2013 | Checked: RJH | Drawn: SPG

Project Number: 636-13-126

Building Number: ONE

Drawing Number: E1.1

Dwg. 16 of 17

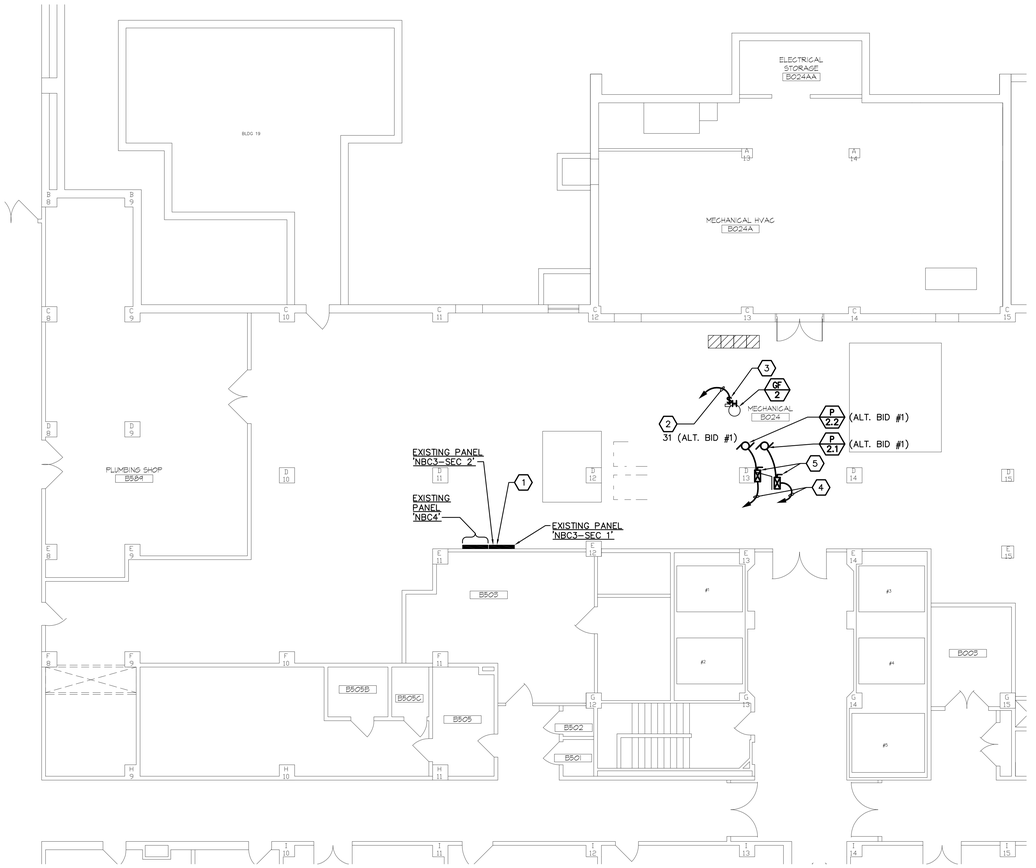
Office of Construction and Facilities Management

Department of Veterans Affairs

SEE 'GENERAL ELECTRICAL NOTES', SHEET E0.1, FOR ADDITIONAL ELECTRICAL REQUIREMENTS

ELECTRICAL KEYNOTES: (⬡)

1. PROVIDE 2-20 AMP, 3 POLE CIRCUIT BREAKERS COMPATIBLE WITH EXISTING PANEL (GE) AND INSTALL IN AVAILABLE SPACE IN EXISTING PANEL 'NBC3-SEC 2'. NEW CIRCUIT BREAKER AIC RATING SHALL MATCH EXISTING. THIS WORK IS PART OF ALTERNATE BID NO. 1.
2. EXTEND NEW CIRCUIT TO EXISTING PANEL 'NBC3-SEC 2' AND CONNECT TO EXISTING SPARE 20 AMP, SINGLE POLE CIRCUIT BREAKER AT CIRCUIT POSITION INDICATED.
3. MOUNT SWITCH TO STRUCTURAL FRAME OF GLYCOL FEED SYSTEM EQUIPMENT. CONNECT EQUIPMENT CONTROL PANEL. PROVIDE CONNECTION FROM CONTROL PANEL TO PUMP MOTOR PER MANUFACTURERS RECOMMENDATIONS.
4. EXTEND NEW CIRCUIT TO EXISTING PANEL 'NBC3-SEC 2' AND CONNECT TO ONE OF TWO NEW 20 AMP, 3 POLE CIRCUIT BREAKERS INSTALLED AS PART OF KEYNOTE 1. THIS WORK IS PART OF ALTERNATE BID NO. 1.
5. MOUNT COMBINATION MOTOR STARTER AND SAFETY SWITCH TO COLUMN, ONE ABOVE ANOTHER, WITH TOP OF UPPER STARTER/SWITCH NO HIGHER THAN 6'-0" ABOVE FINISHED FLOOR.



1 E2.1 PARTIAL BASEMENT ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

Revisions:	Date

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InfraStructure, LLC
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Drawing Title: PARTIAL BASEMENT FLOOR ELECTRICAL PLAN

CONTRACT DOCUMENTS (CD-3) FINAL SUBMITTAL (100%)

Project Title: UPGRADE FORCE PROTECTION FRONT ENTRANCE
Location: VAMC Omaha Nebraska
Date: MAY 10, 2013 | Checked: RJH | Drawn: DMM

Project Number: 636-13-126
Building Number: ONE
Drawing Number: E2.1
Dwg. 17 of 17

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

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three inches = one foot 6"
one and one half inches = one foot 1 6"
one inch = one foot 0 6"
three quarters inch = one foot 2 0 6"
one half inch = one foot 1 0 4
three eighths inch = one foot 0 4
one quarter inch = one foot 0 8
one eighth inch = one foot 0 4 8 16